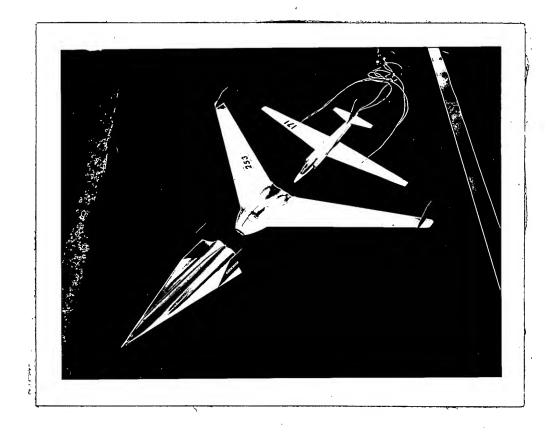


## NRO Review Completed.





#### COMPARISON OF RADAR RETURN FROM ARROW I, G2S-57 & U-2

The following is a comparison of the return from 1/40th scale models of relatively simple aircraft shapes designated Arrow I, G2S-57 and U-2. Comparisons have been made between the three models at a range of 228" and 62", this range being measured from the center of rotation of the model to the apex of the transmitting horn. Measurements were made at the test frequencies of 2.9, 5.9 and 9 Kmc which give full scale frequencies of 72.5, 147 and 225 mc.

The first chart of this report shows a comparison for each model between the response at a range of 62" and the response at 228" for an elevation angle of 00 and both horizontal and vertical polarization.

The second chart shows a comparison of the three models at the range of 62" for a  $0^{\circ}$  elevation.

The third chart shows a comparison of the three models at a range of 228" at both polarizations and for elevation angles of 0°, -7° and 11°.

In computing the peak response the actual peak value has been used without degrading it to the  $3^{\circ}$  wide point.

# COMPARISON OF 62" AND 228" RANGE MEASUREMENTS ON 1/40th SCALE ARROW I, G2S-57 AND U-2

-

#### Square Meters

					<b>4</b> -1					
				•		row.I	.I			
			•	62" Rang			228# Range			
Freq.		Elev.		Peak	Peak		Peak	Peak		
mc.	Ē	Angle	Av.	(1)	(2)	Av.	. (1)	(2)		
						•				
72.5		0	5.5	<b>57</b>	21	6.5	73	20		
147.0	Hor.	0	3.5	5 <b>7</b>	90	6.0	180	40		
225.0		0	7.0	130	110	12.0	260	125		
72.5		0	7.5	90	18	8.0	125	18		
147.0	Vert.	ŏ	4.0	110	32	8.0	180	30		
225.0	40100	ŏ	7.5	240	125	17.0	520	180		
			1.4							
					,					
		0	* 0.1		;	G2S-57		an kalandar Tabulan Tak		
- 2 T		**		Peak	Peak		Peak	Peak		
		grade springer in gr	Av.	(1)	(2)	Av.	(1)	(2)		
				- T						
72.5	1.00	0	8.0	. 65	-90	12.5	45	190		
147.0	Hor.	0	3.5	25	25	.8.0	80	150		
225.0		<b>0</b> , j. i.	8.0	36	45	12.5	190	190		
<b>30</b> F		VA	3.6	50	9	6.4	6Ц	36		
72.5		0	3.5		10	8.0	90	23		
147.0	Vert.	0	8.0	45 80	10	13.0	180	23		
225.0			0.0	00	10	1).0	100			
	•				*					
						U-2	·			
				Peak	Peak		Peak	Peak		
· · · · · · · · · · · · · · · · · · ·			Av.	(1)	(2)	AV.	(1)	(2)		
<b>3</b> 2 C		0	16.0	110	28	21.0	230	55		
72.5	Hor.	* / 0	7.5		11	12.5	700	40		
147.0	nor.	0	14.0	450	75	22.0	500	80		
225.0		U	<u>τ</u> π•0	450	HC	22.00	) <del>,</del>			
72.5		0	4.5	145	5	6.5	90	9		
147.0	Vert.	0	7.6	80	6	9.0	11,5	8		
225.0		0	9.0	300		14.0	450			

NOTE: See Patterns for Exact Location of Peak

# COMPARISON OF 1/40th SCALE ARROW I, G2S-57 AND U-2

### Measured at 62" Range

#### Square Meters

				Arrow :	E		G2S-57	7		U-2	
Freq.	<u> </u>	Elev. Angle	AV.	P <b>e</b> ak (1)	Peak (2)	AV.	Peak (1)	Peak (2)	AV.	Peak (1)	Peak (2)
72.5 147.0 225.0	Hor.	0 0 0	5.5 3.5 7.0	57 57 130	21 90 110	8.0 3.5 8.0	65 <b>2</b> 5 <b>3</b> 6	90 25 45	16.0 7.5 14.0	110 160 450	28.0 11.0 42.0
72.5 147.0 225.0	Vert.	0 0	7.5 4.0 7.5	90 110 240	18 32 125	3.6 3.5 8.0	50 45 80	9 10 10	4.5 7.6 9.0	45 80 <b>30</b> 0	5.0 6.0

Peak		• .	
(1)	Broadside	Broadside	Broadside
(2)	Aft	Leading Edge	Leading Edge

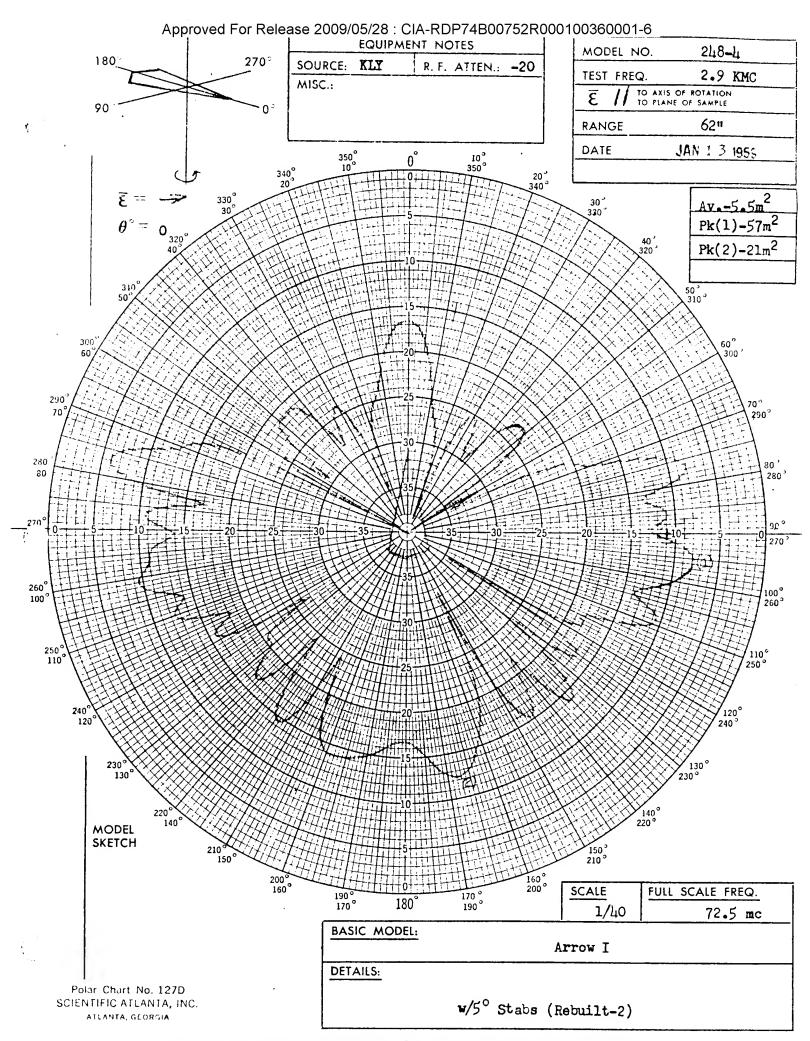
NOTE: See Patterns for Exact Location of Peak

COMPARISON OF 1/40th SCALE ARROW I, G2S-57 AND U-2

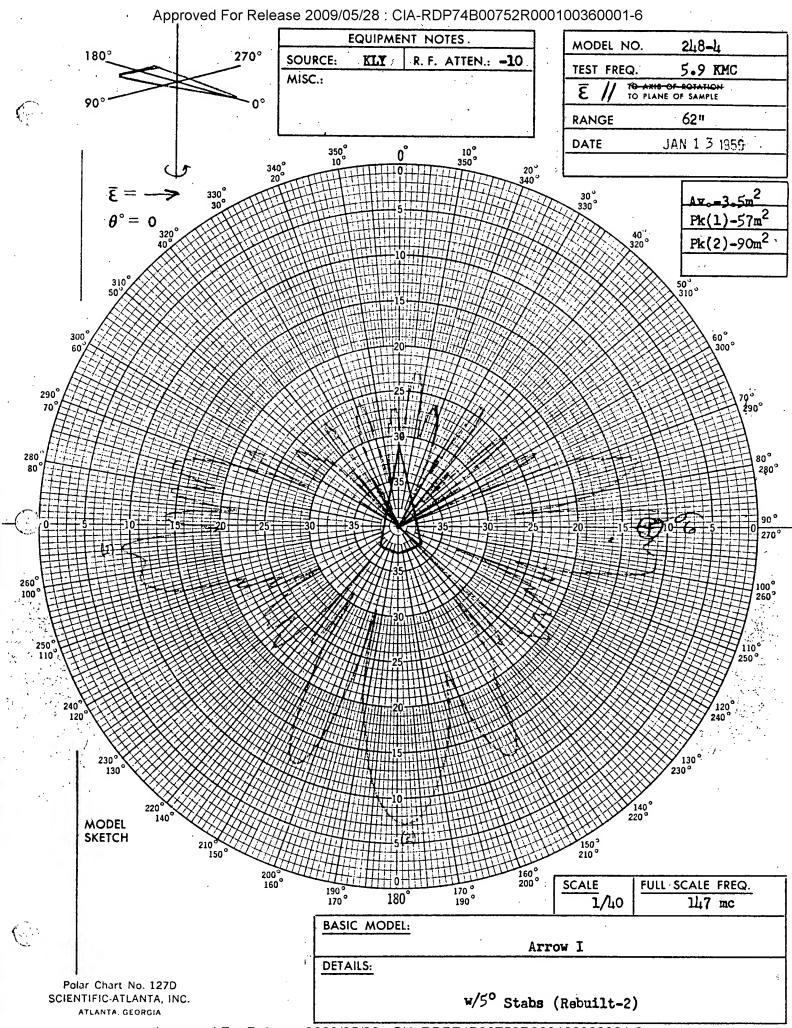
Measured at 228" Range

							Square	Watere	•		
				Arrow I			02S-57		. ) (	<b>U-</b> 2	
Freq.	E	Elev. Angle	Av.	Peak (1)	P <b>e</b> ak (2)	Av.	Peak (1)	Peak (2)	Av.	Peak (1)	Peak (2)
72.5 147.0 225.0	Hor.	0 0	6.5 6.0 12.0	73 180 260	20 40 125	12.5 28.0 12.5	45 80 190	190 150 190	21.0 12.5 22.0	230 400 500	55.0 40.0 80.0
72.5 147.0 225.0	Vert.	0 0	8.0 8.0 17.0	125 180 520	18 30 180	6.4 8.0 13.0	64 90 180	36 23 23	6.5 9.0 14.0	90 145 450	9.0 8.0
72.5 147.0 225.0	Hor.	-7 -7 -7	9.5 5.0 10.0	65 80 <b>7</b> 2	40 90 90	16.0 11.5 13.0	45 80 110	230 160 180	25.0 9.0 10.6		43.0 40.0
72.5 147.0 225.0	Vert.	-7 -7 -7	8.0 8.0 12.5	72 57 108	18 90 120	7.5 10.0 13.0	80 110 160	40 28 35	5.0 6.4 13.0	<b>95</b> 50 500	14.0 14.0 25.0
72.5 11.7.0 225.0	Hor.	-11 -11 -11	8.5 5.0 12.0	64 80 57	25 80 72	10.0 8.0 14.5	35 90 200	180 180 57	30.0 8.0 15.0	240 170 230	18.0 30.0 85.0
72.5 147.0 225.0	Vert.	-11 -11 -11	8.0 7.0 8.0	47 112 50	23 82 110	12.0 10.0 9.0	80 145 90	57 25 100	5.8 4.1 8.0	170 90 400	4.5 23.0 58.0
	*		1								
Peak (1) (2)			Broad Aft.	d <b>si</b> de			dside Lng Edge	3	Broad Lead	iside Ing Edg	; <b>e</b>

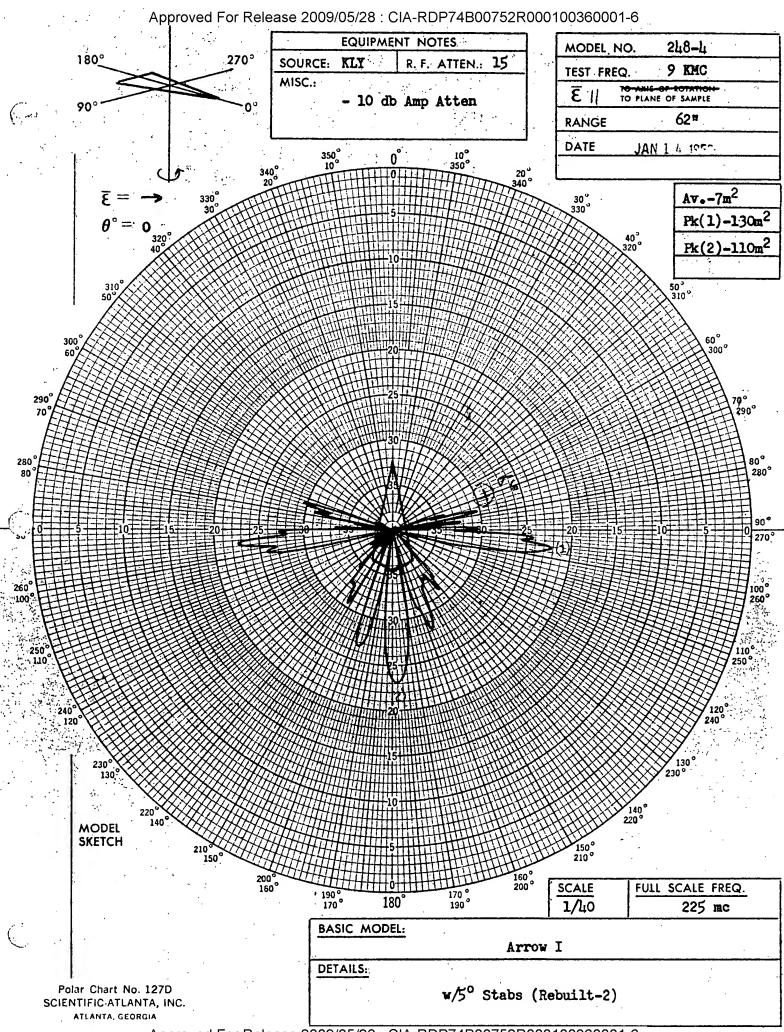
NOTE: See Patterns for Exact Location of Peak

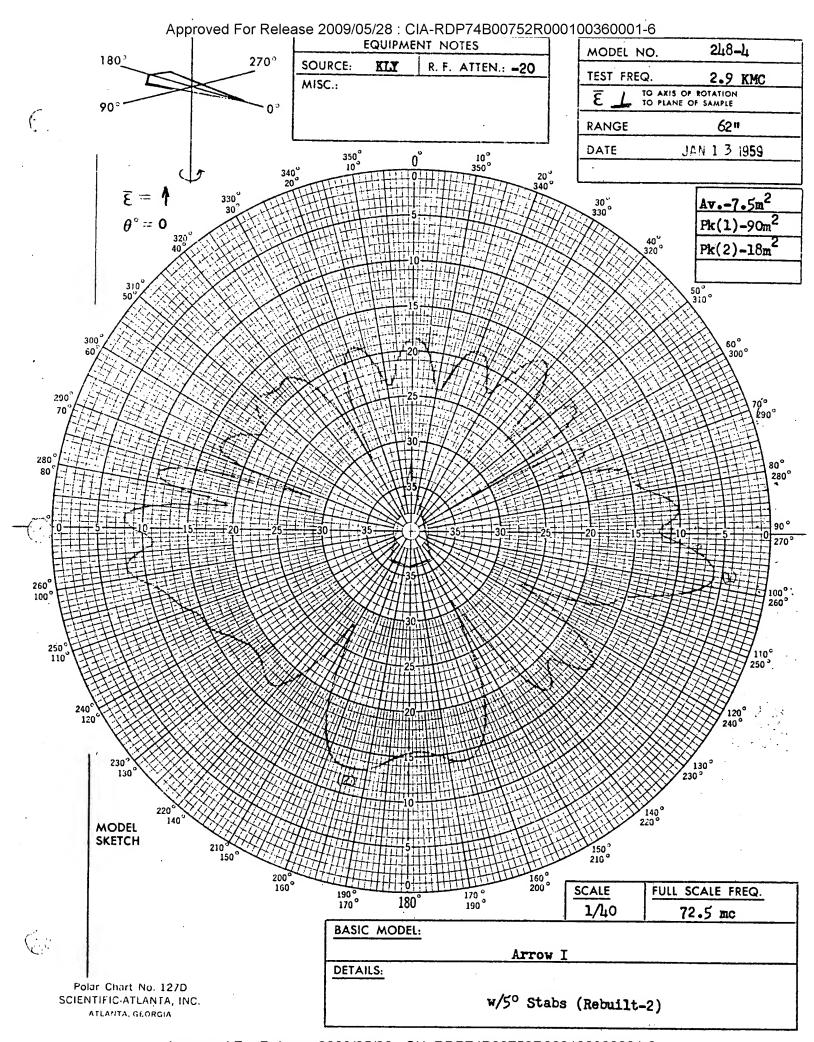


Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6

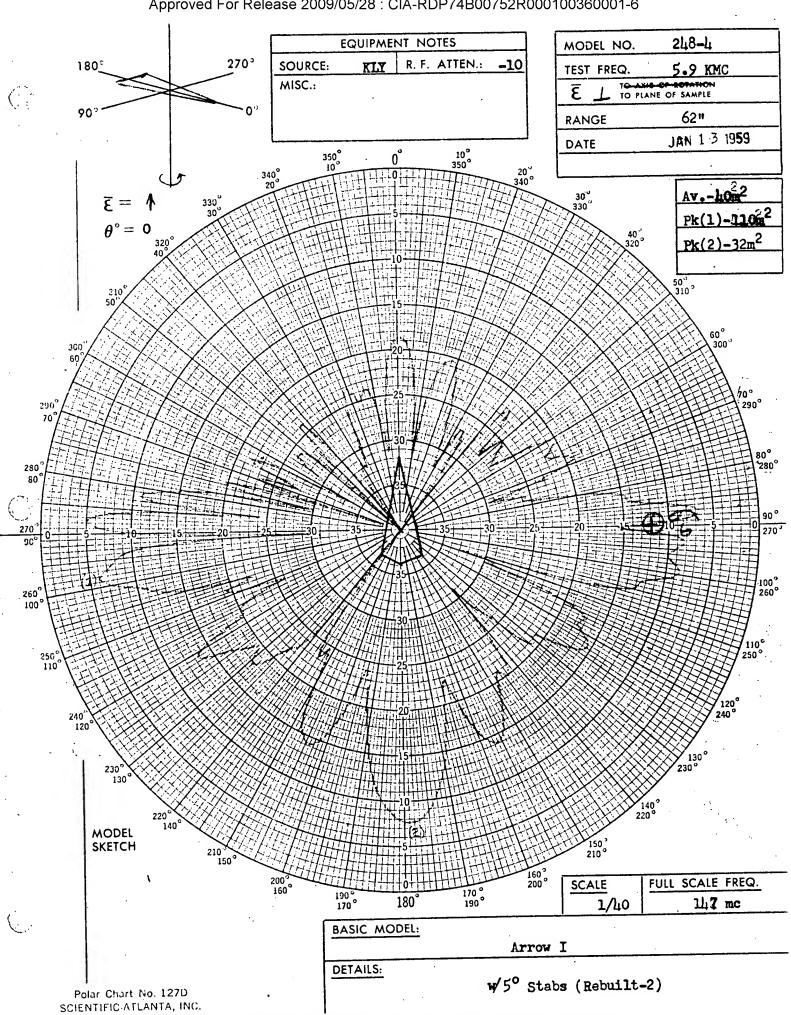


Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6

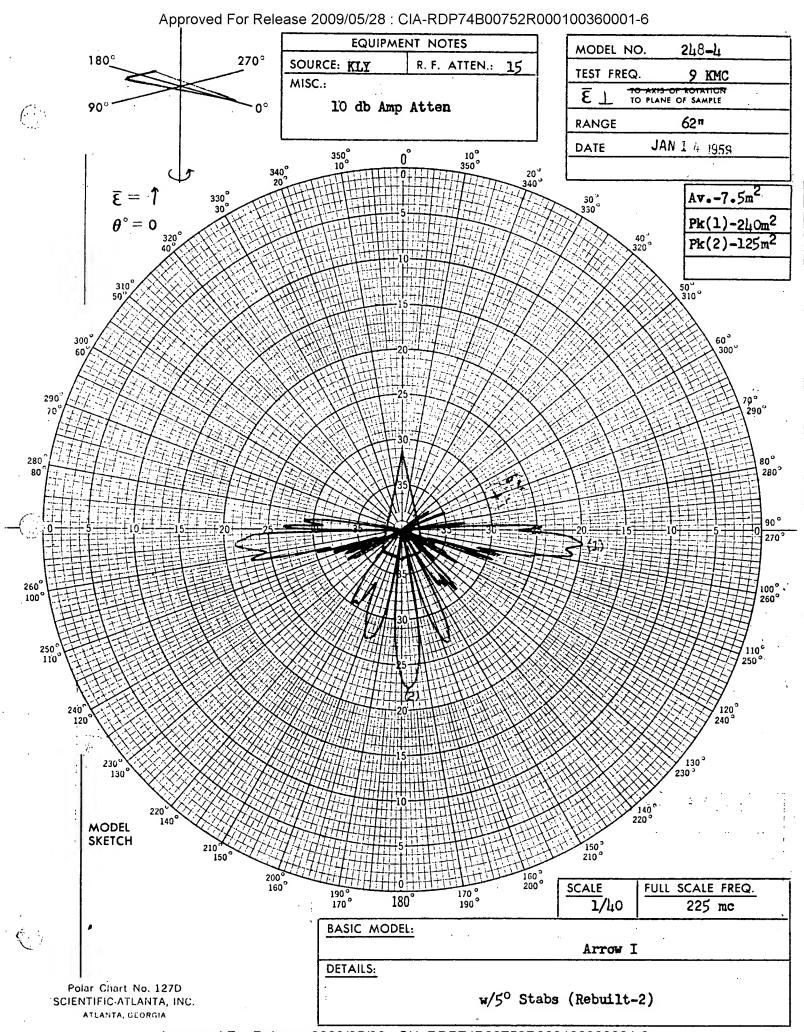




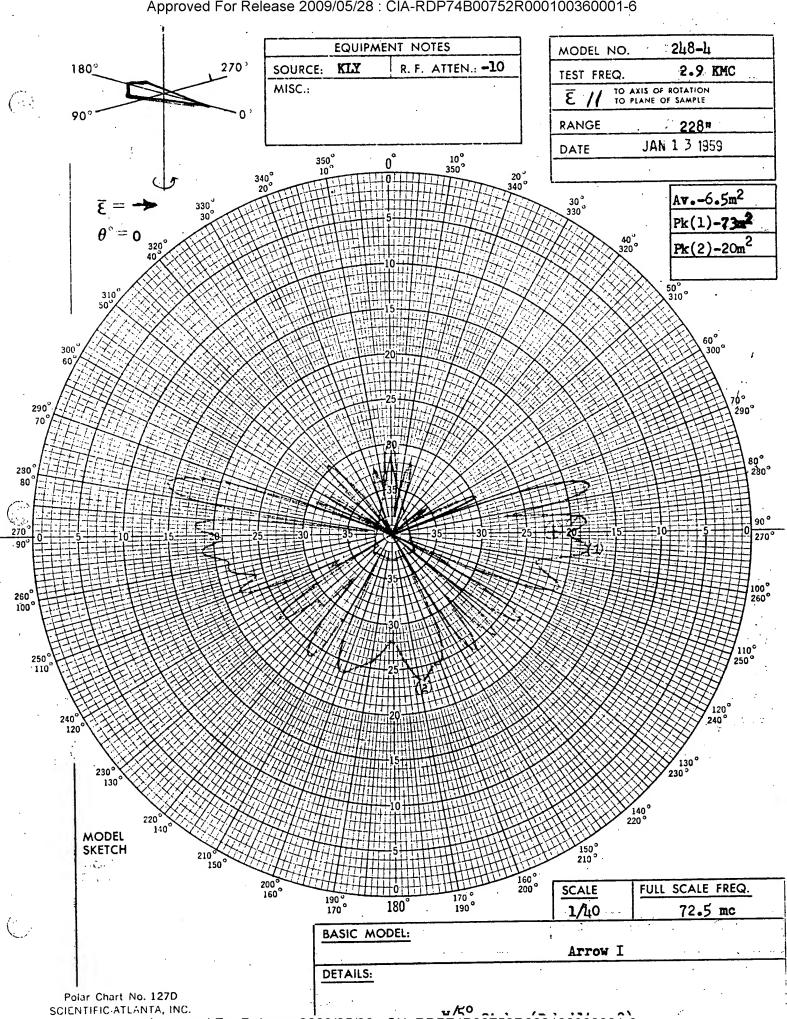
Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6

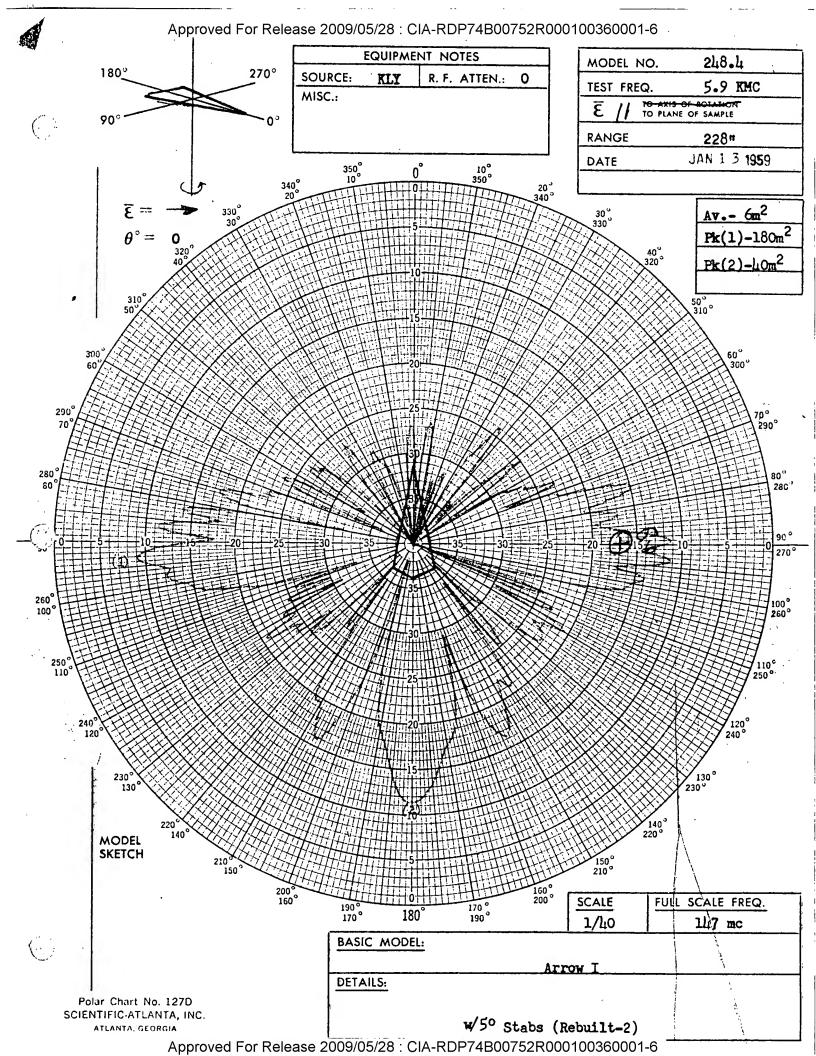


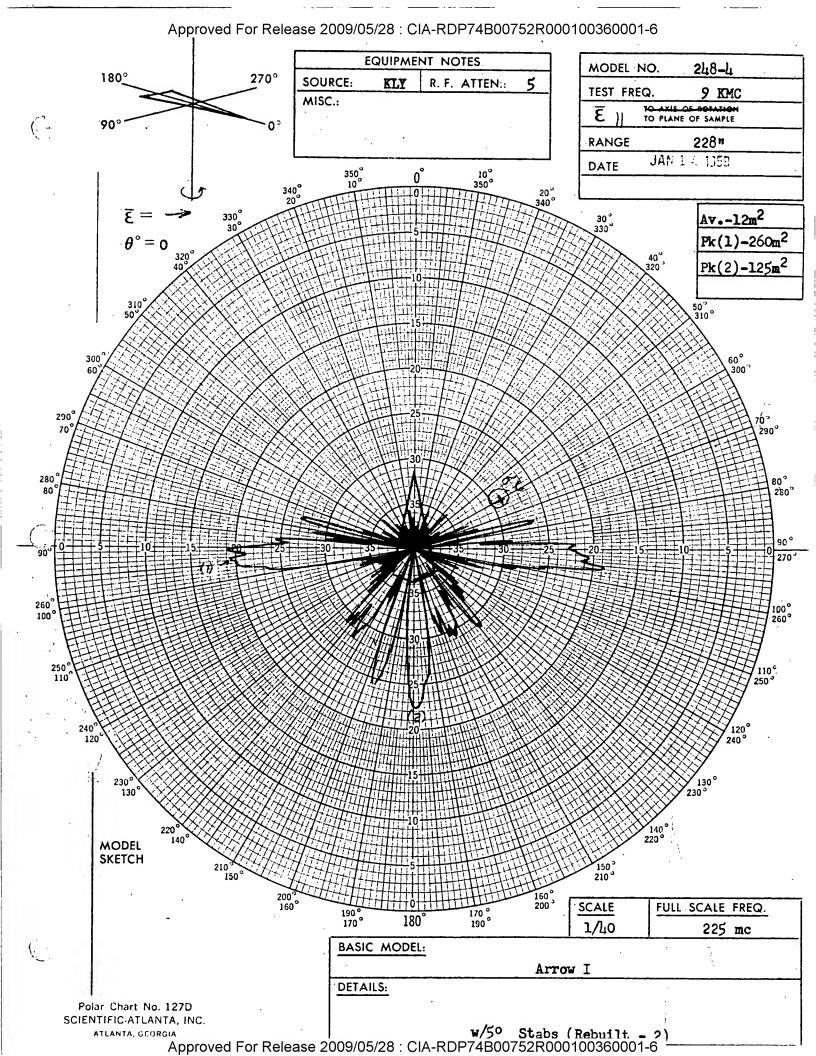
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

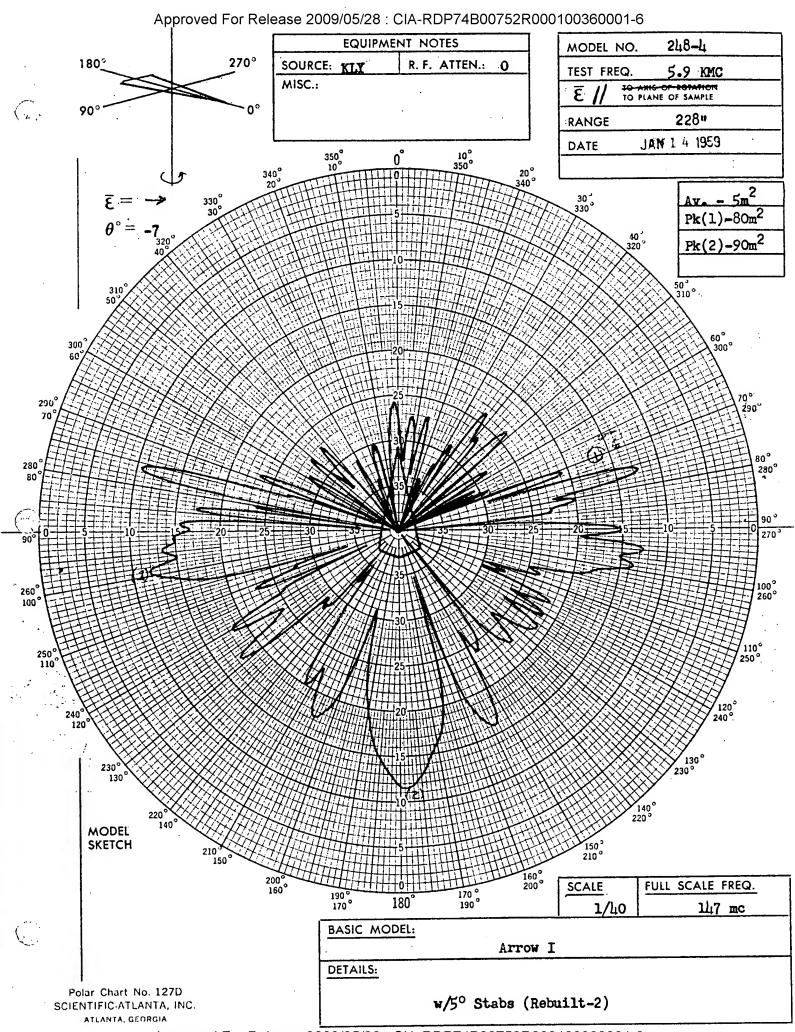


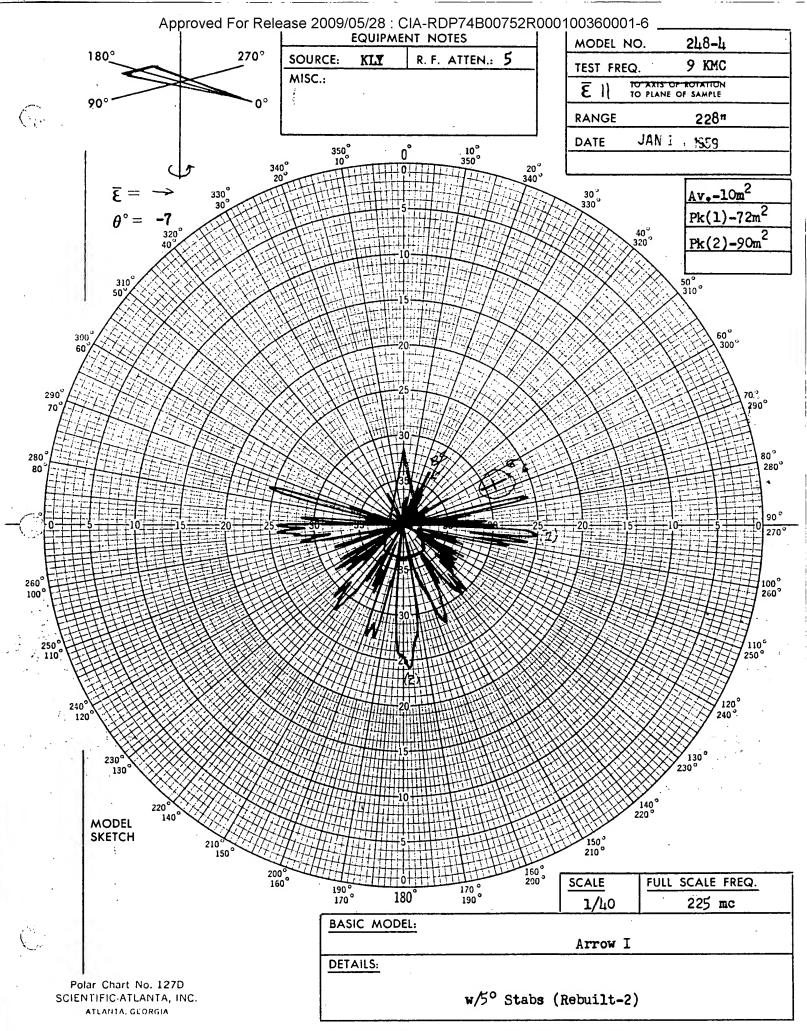
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



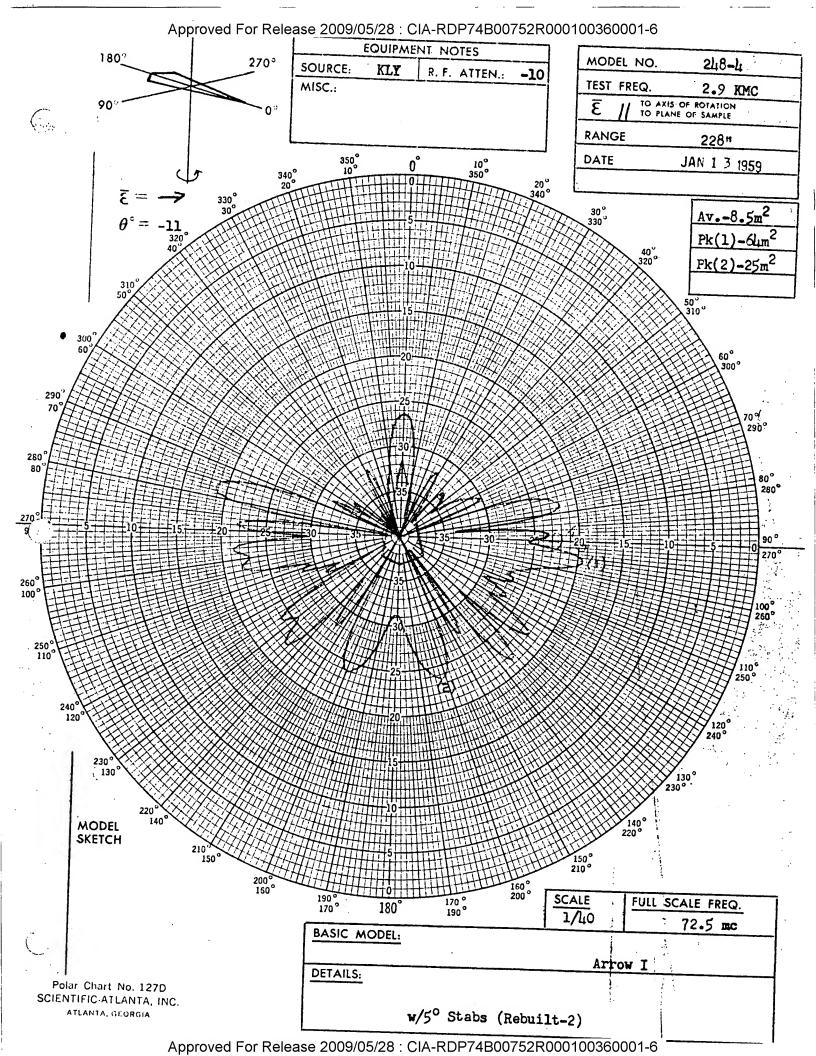


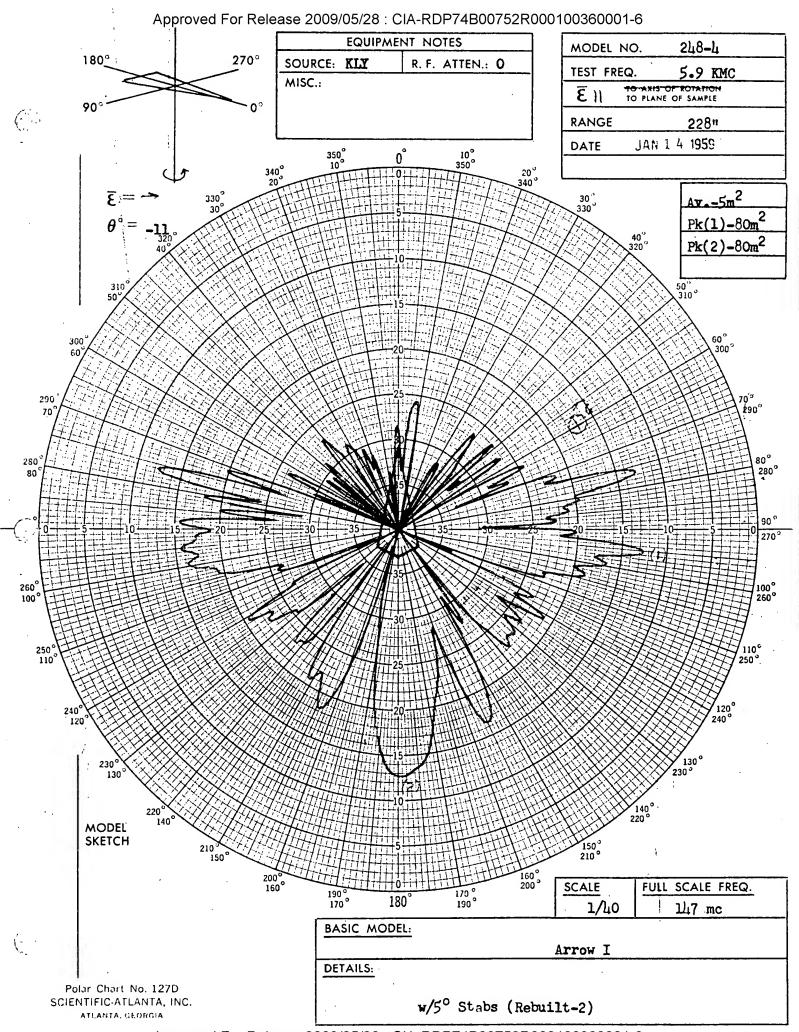




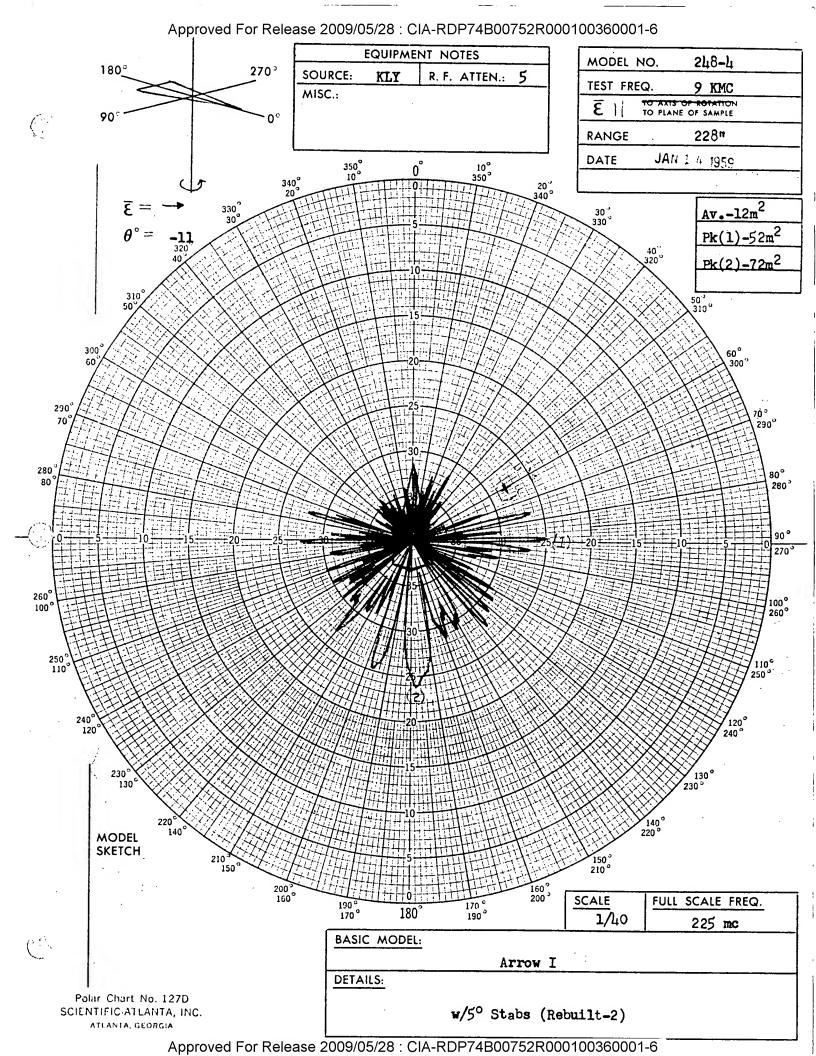


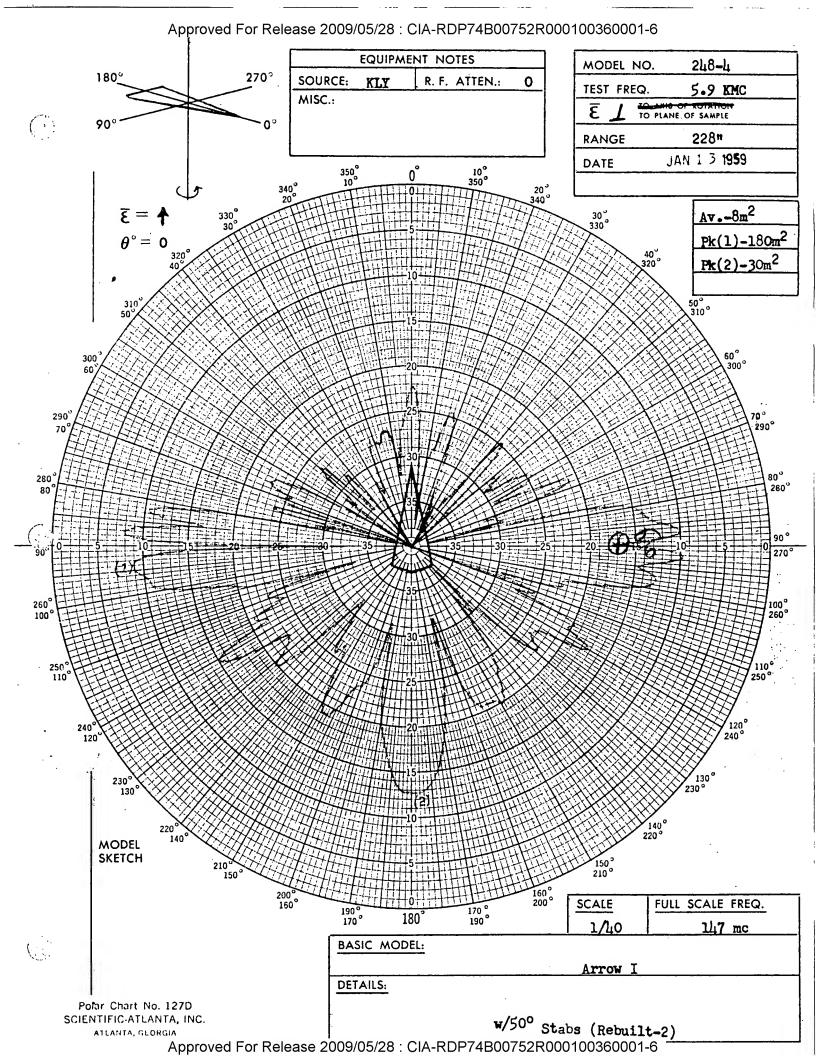
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

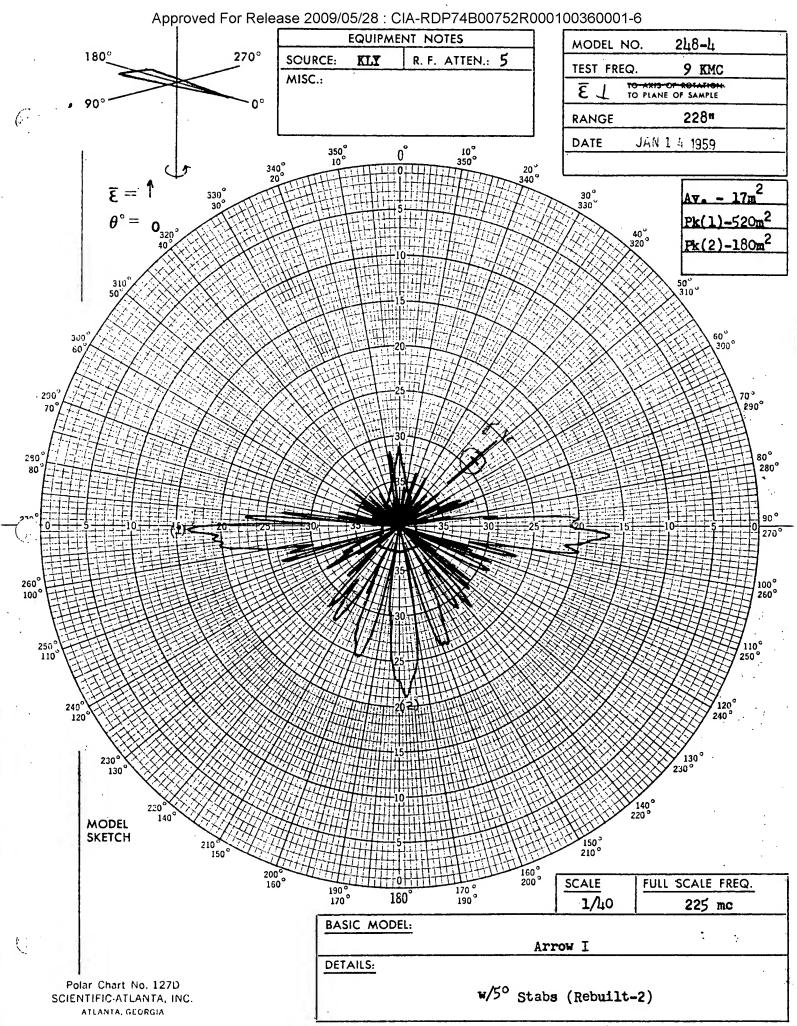




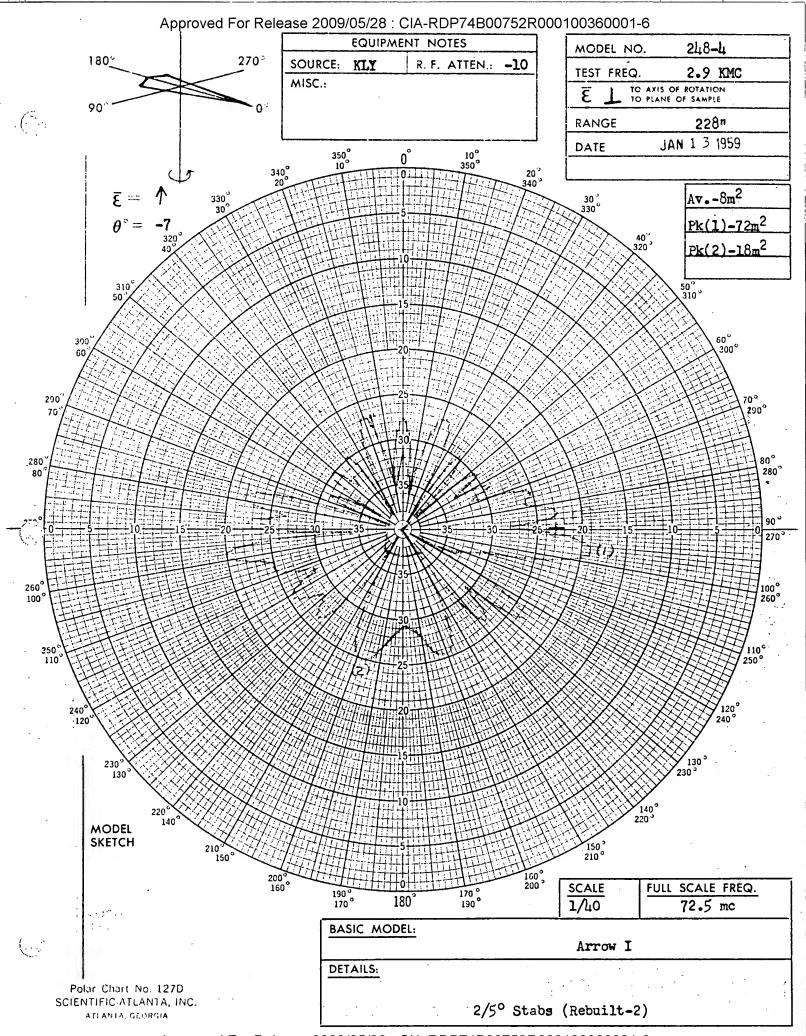
Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6



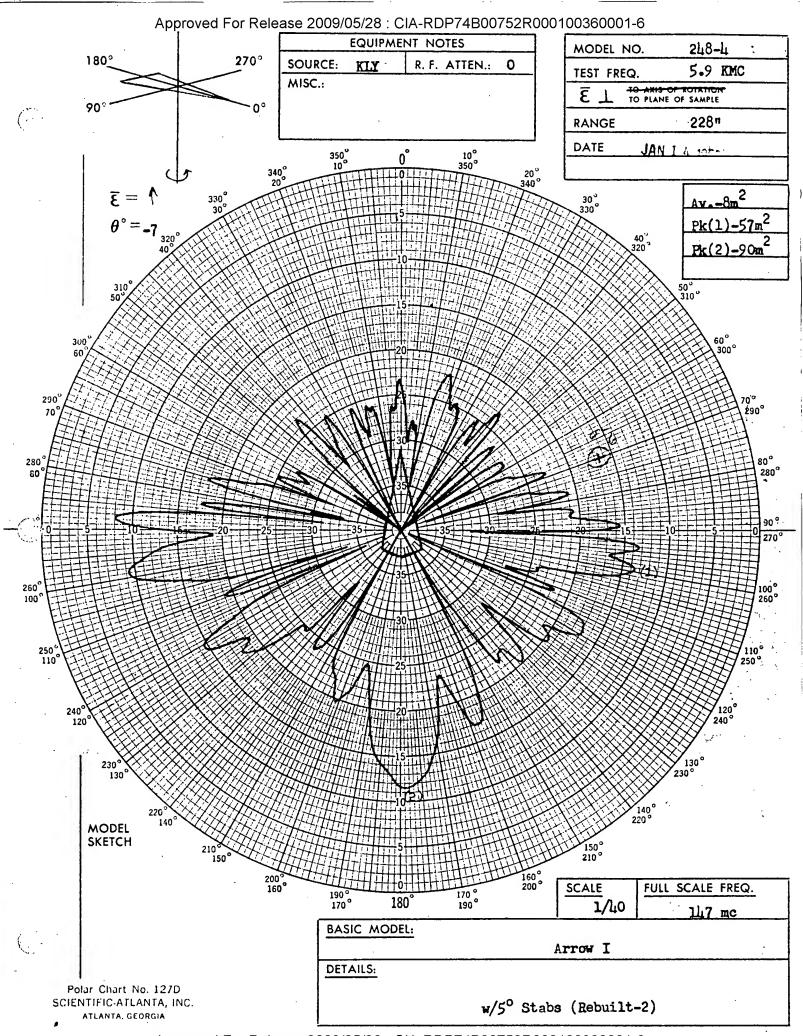




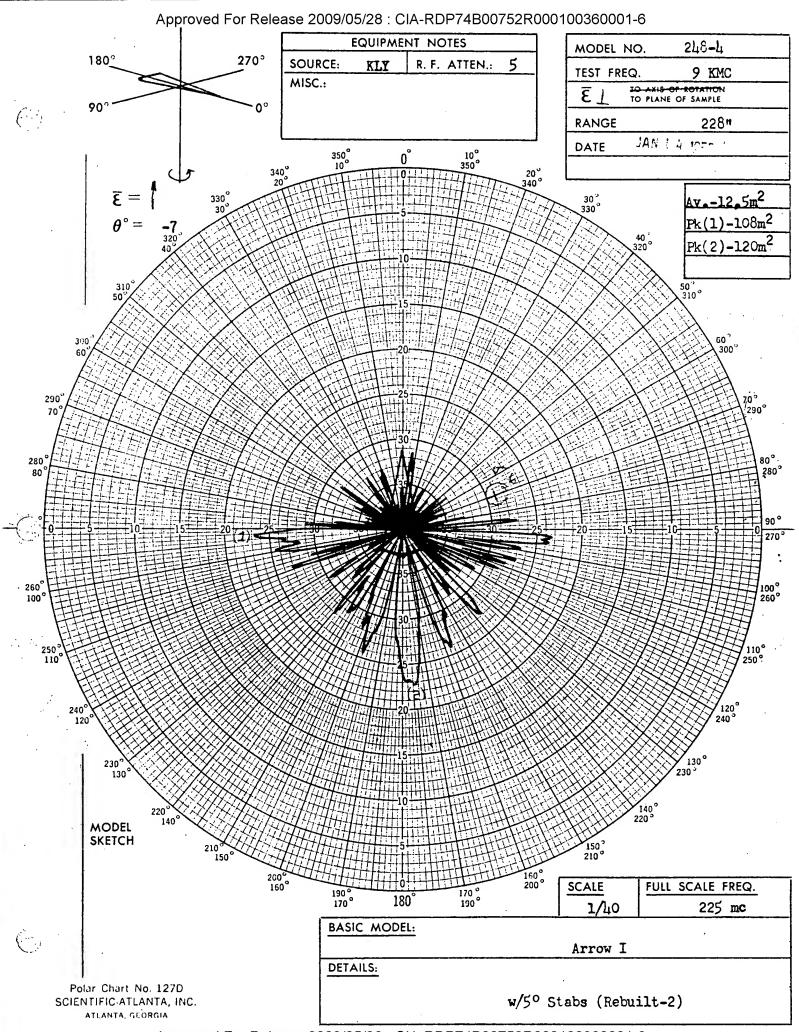
Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6



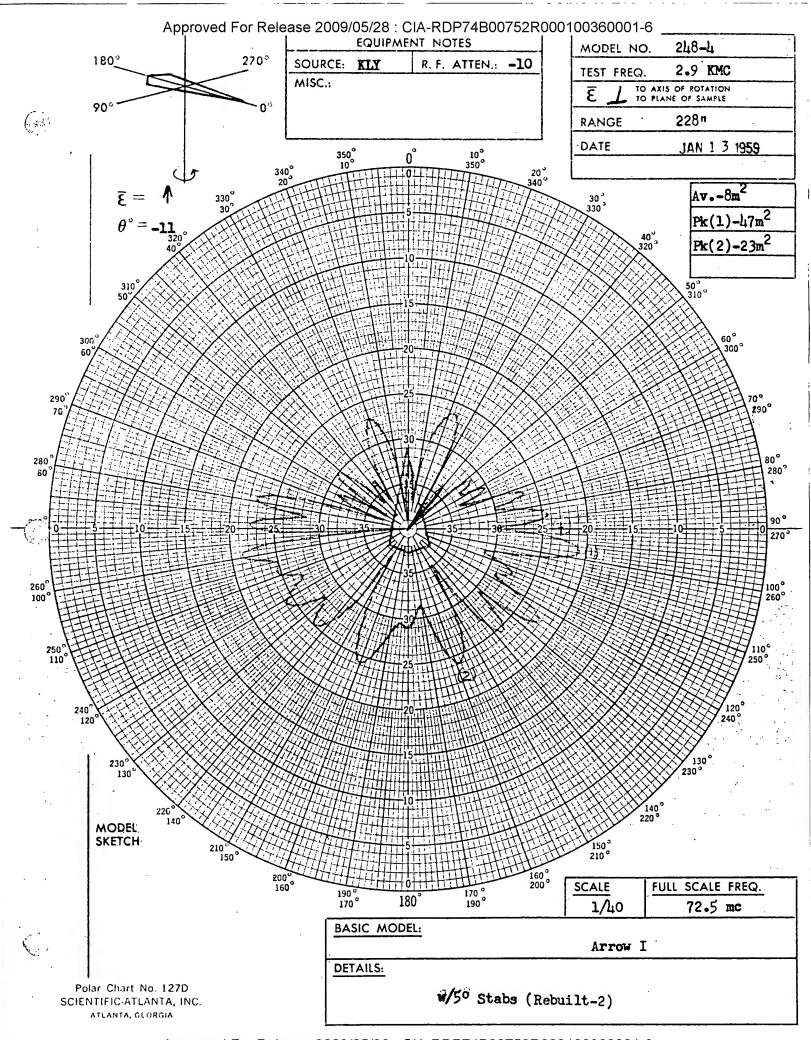
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



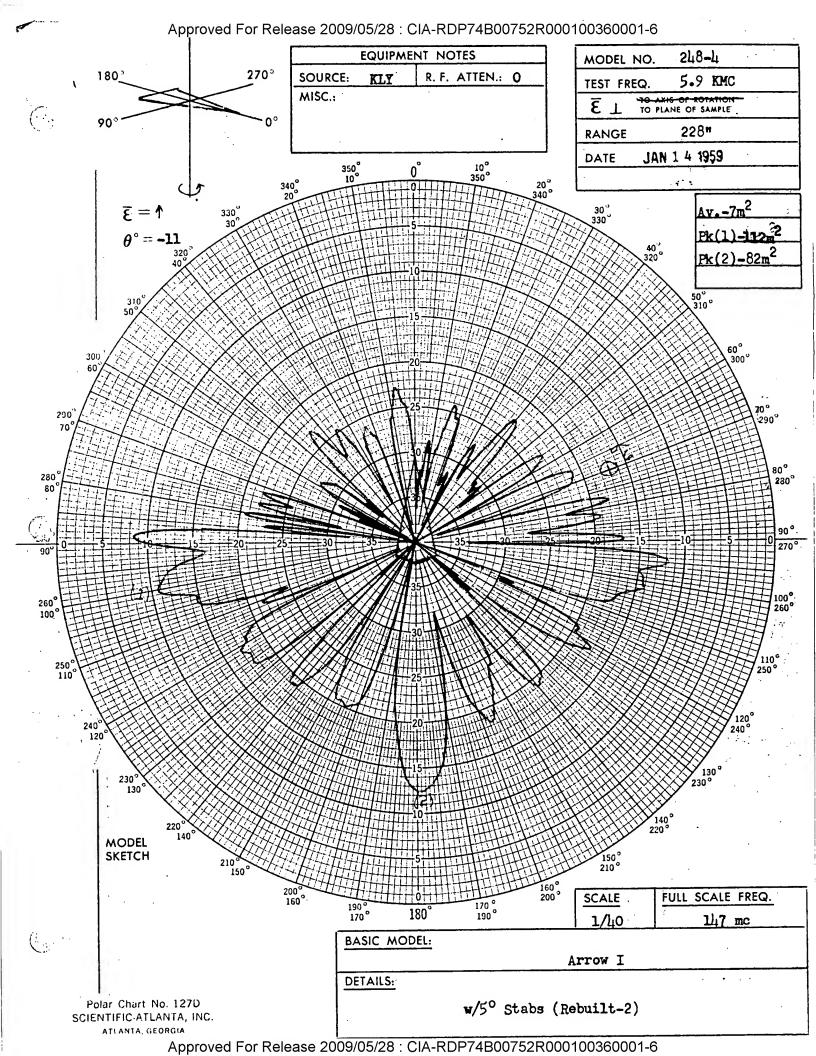
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

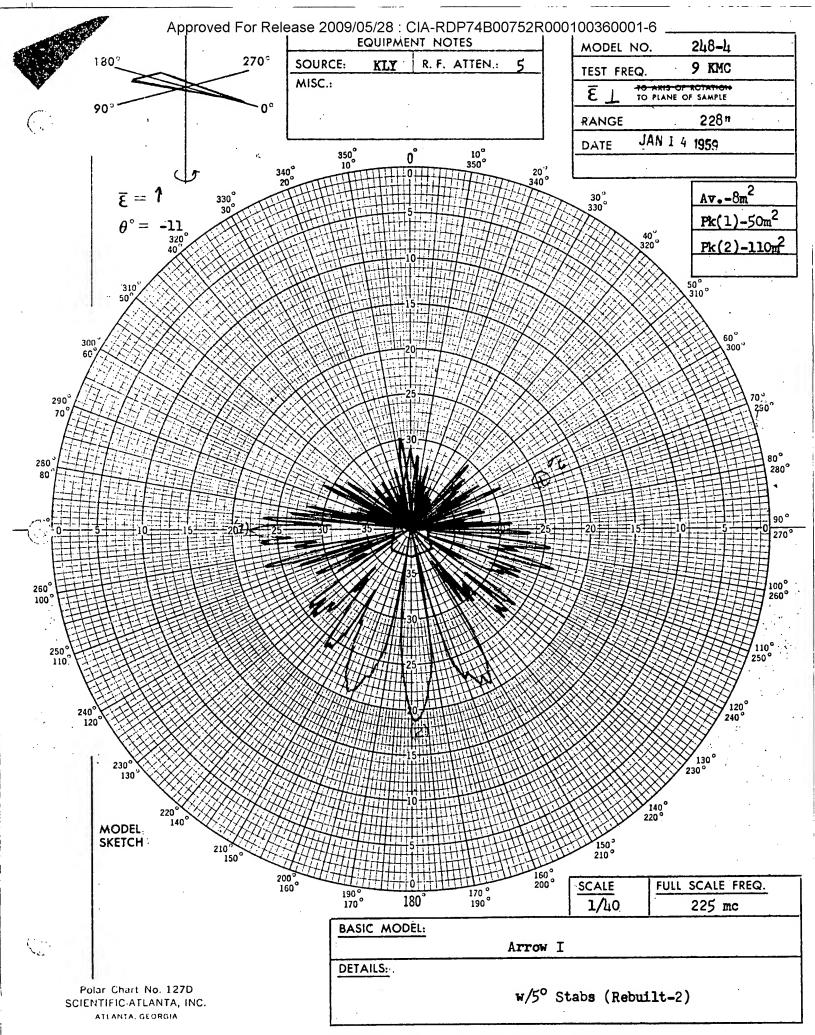


Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

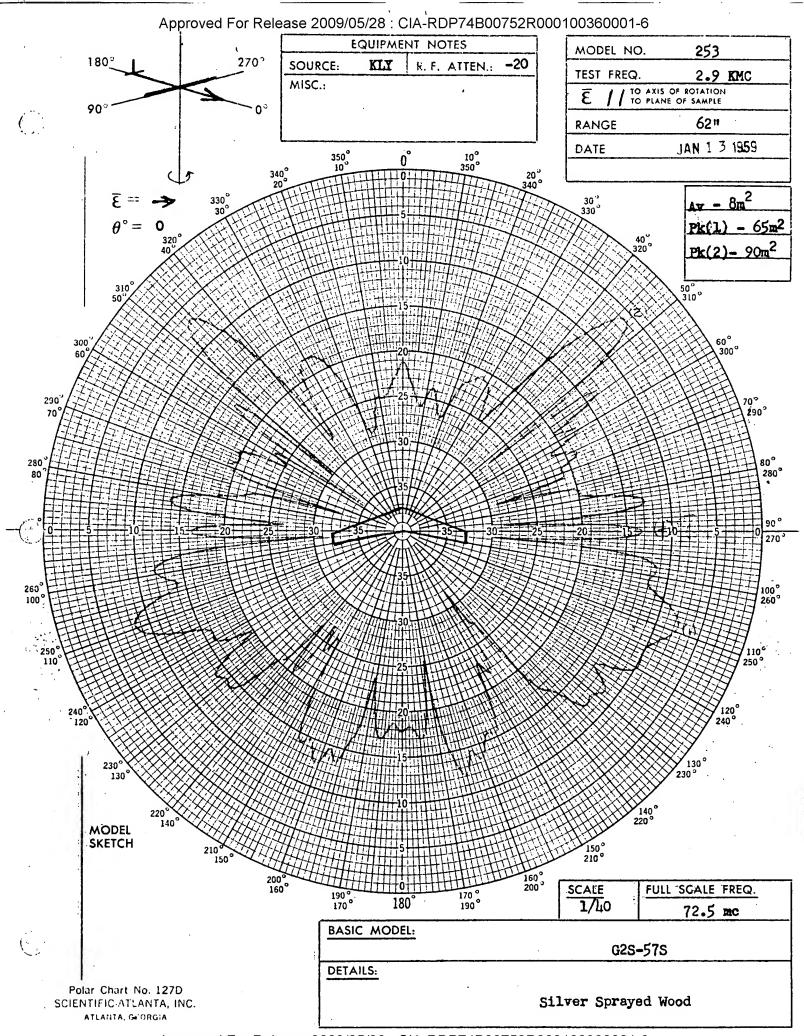


Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

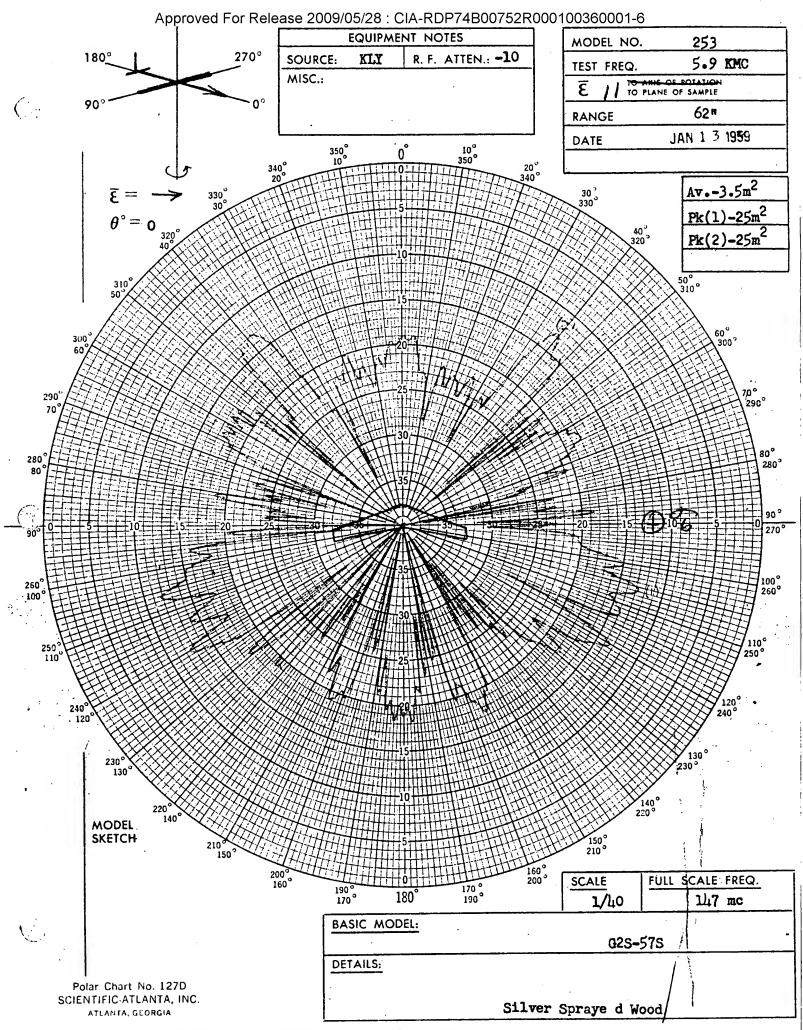




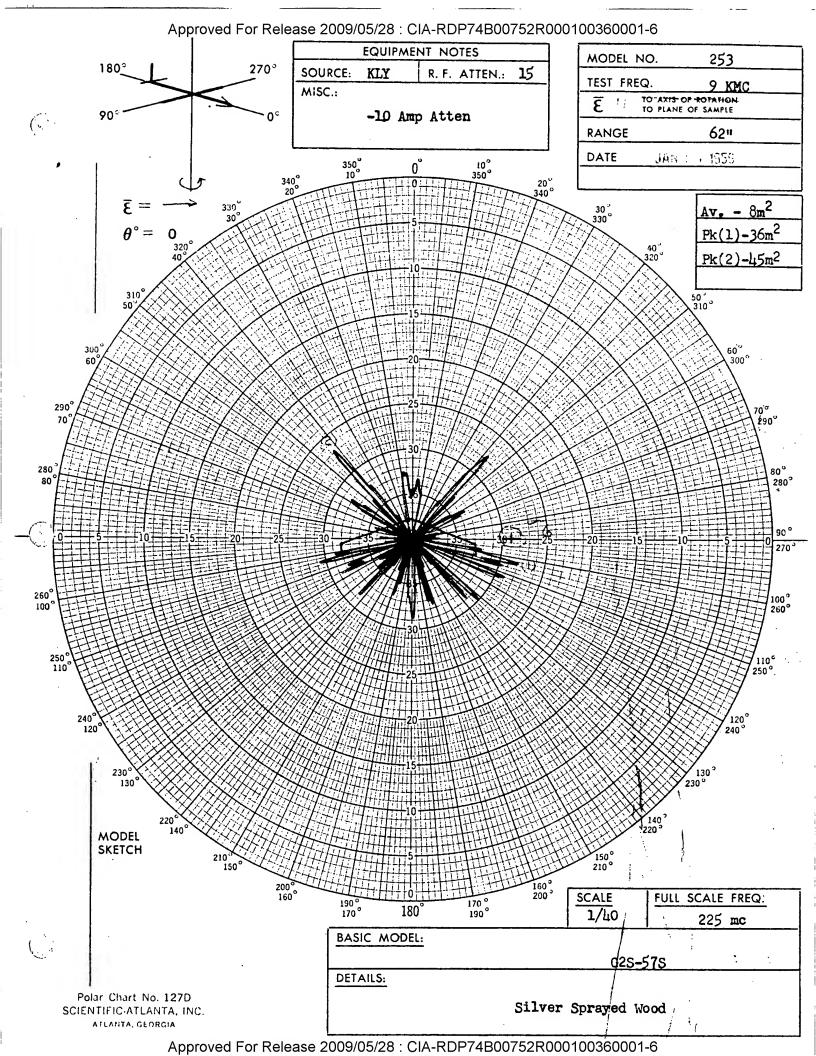
Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6

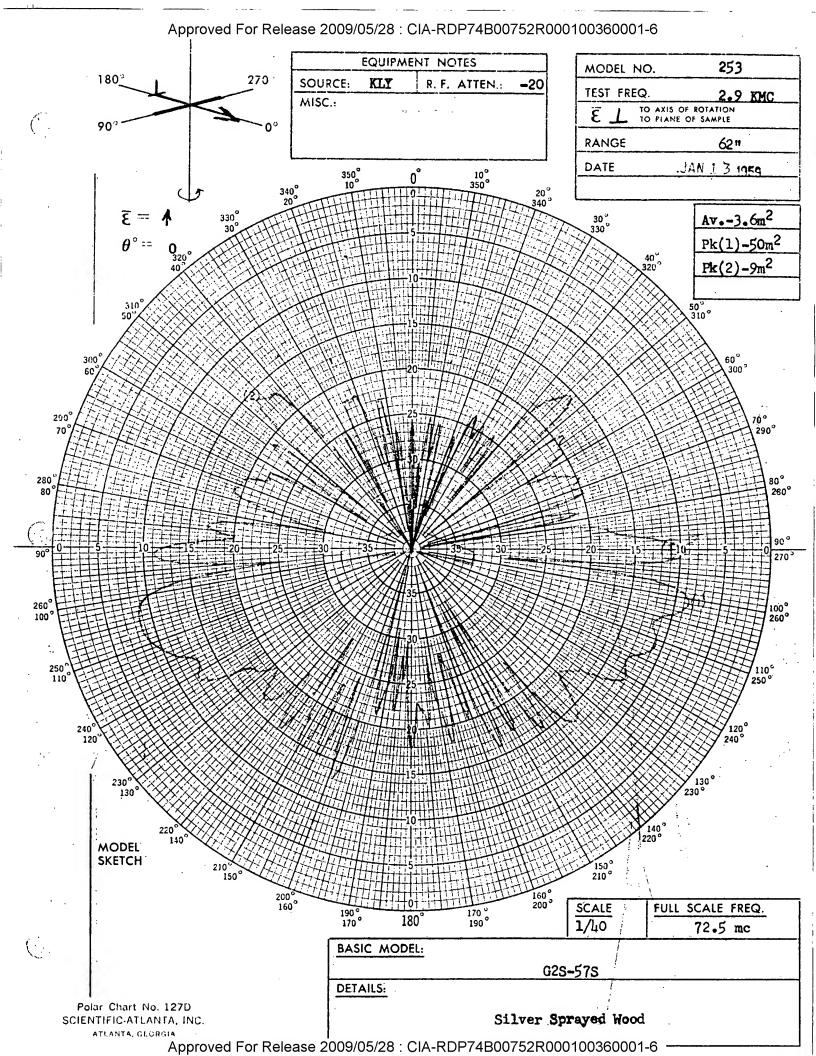


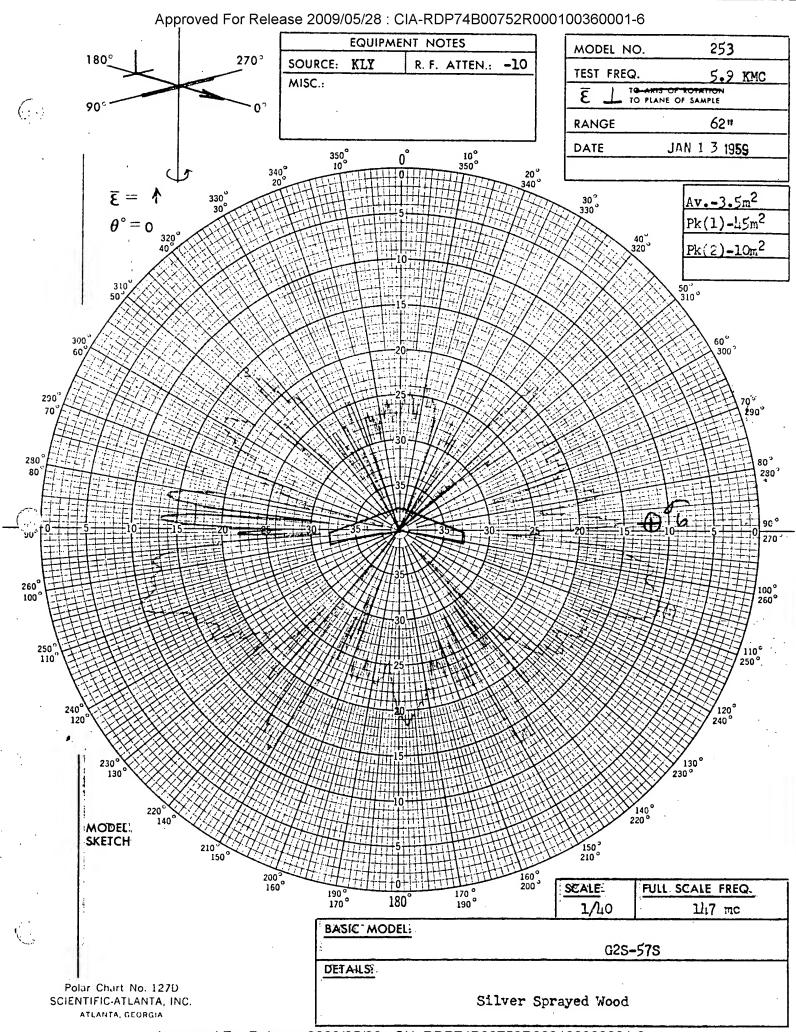
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

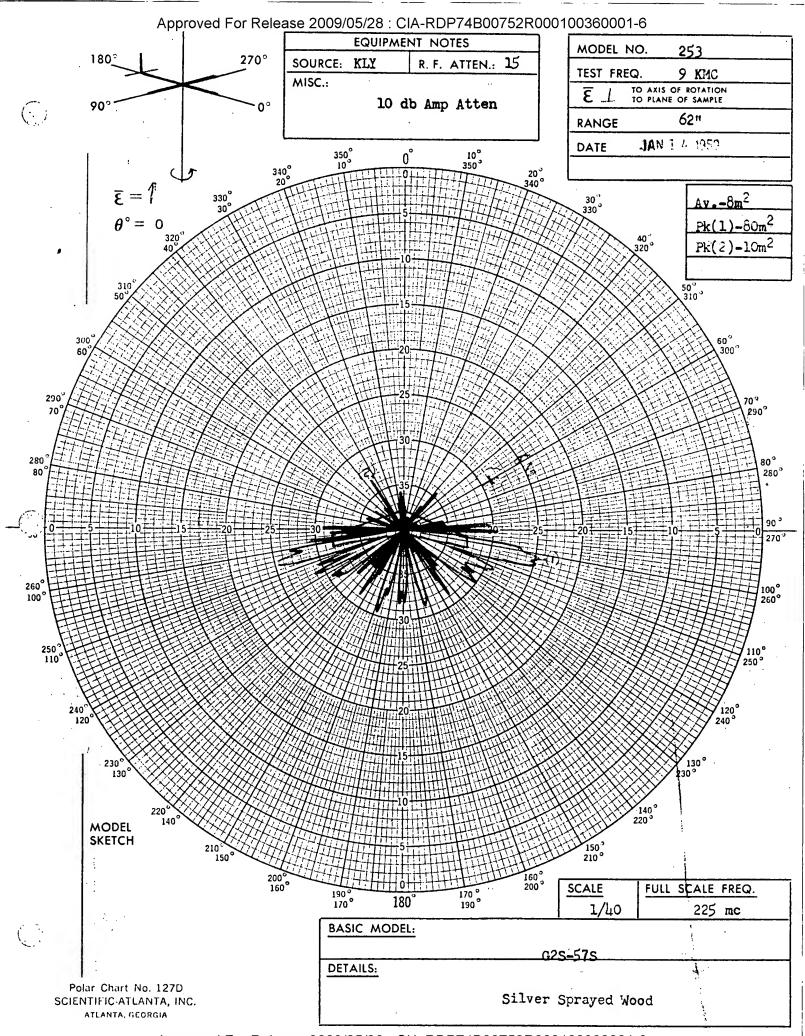


Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

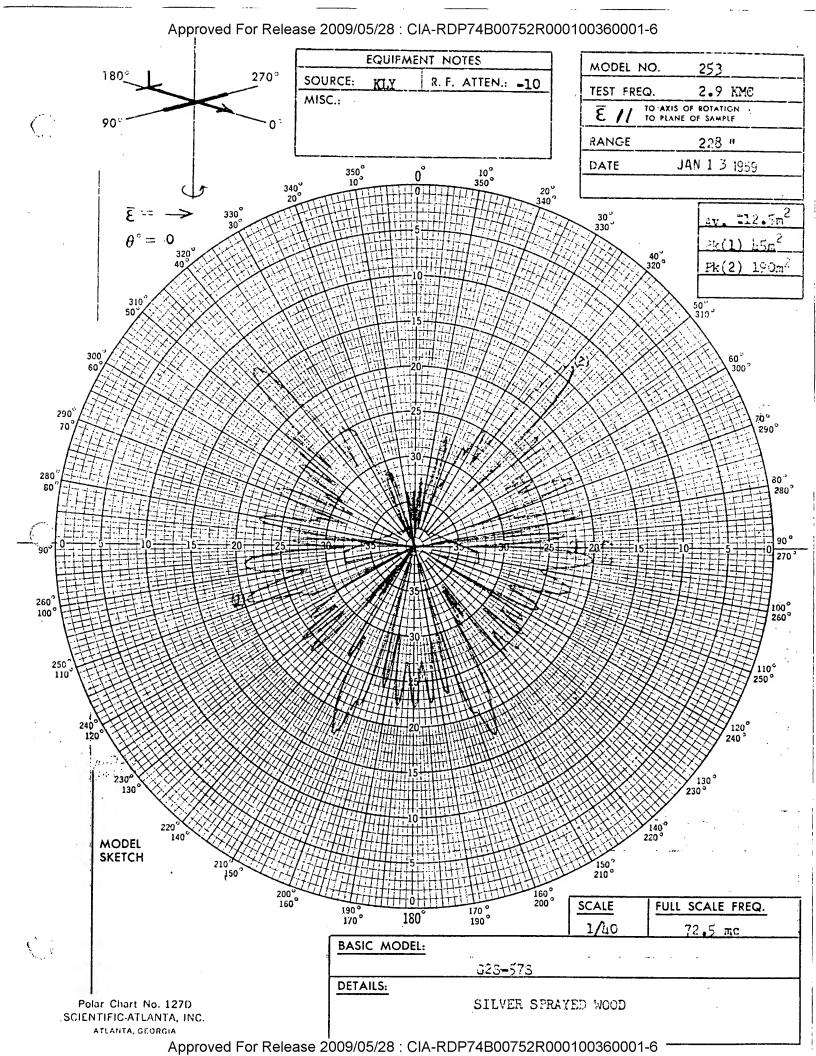


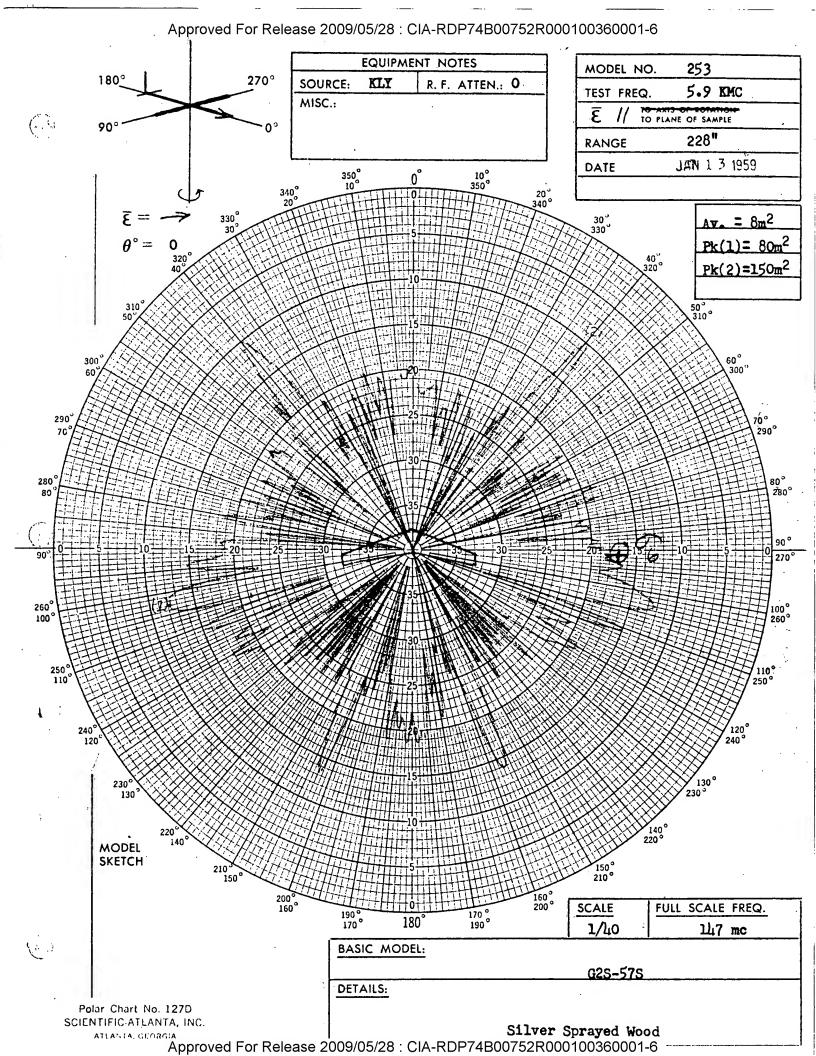


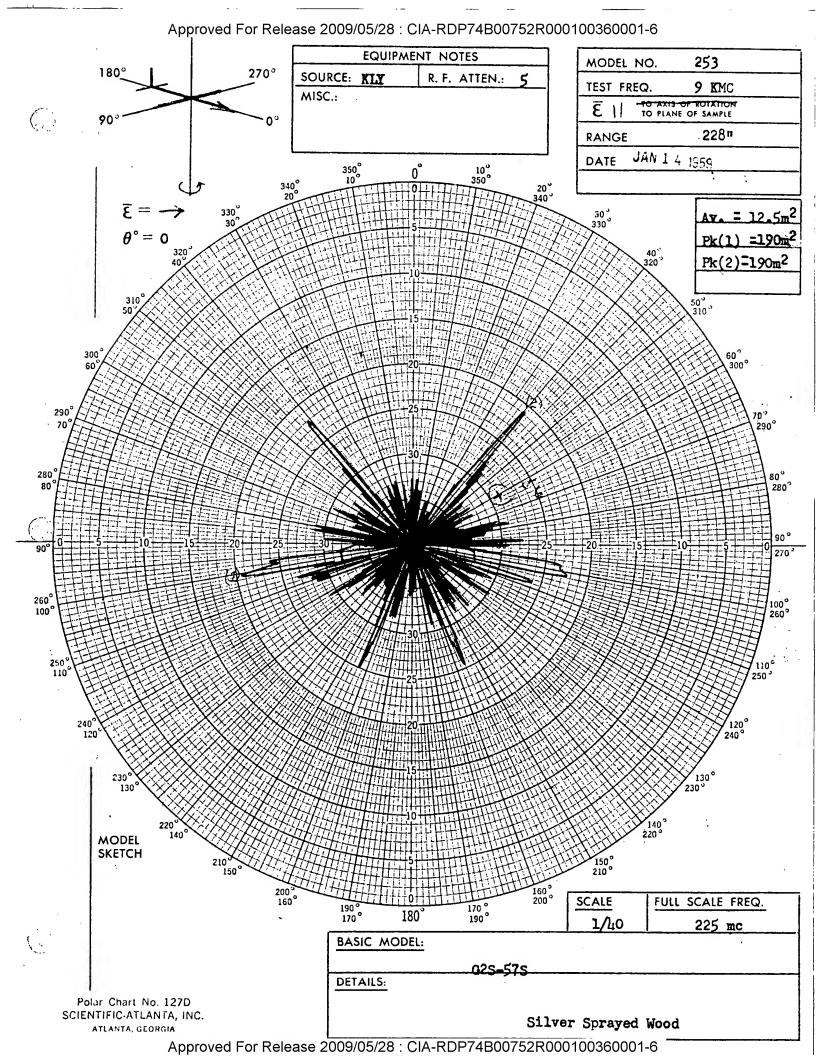


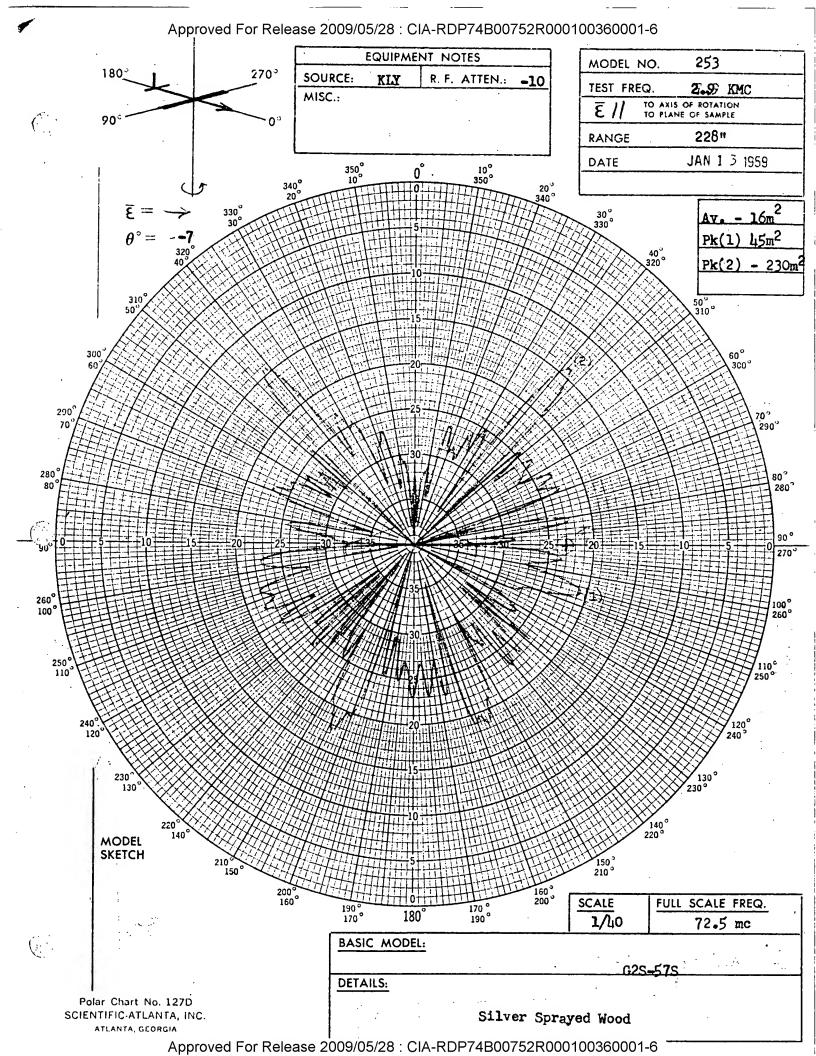


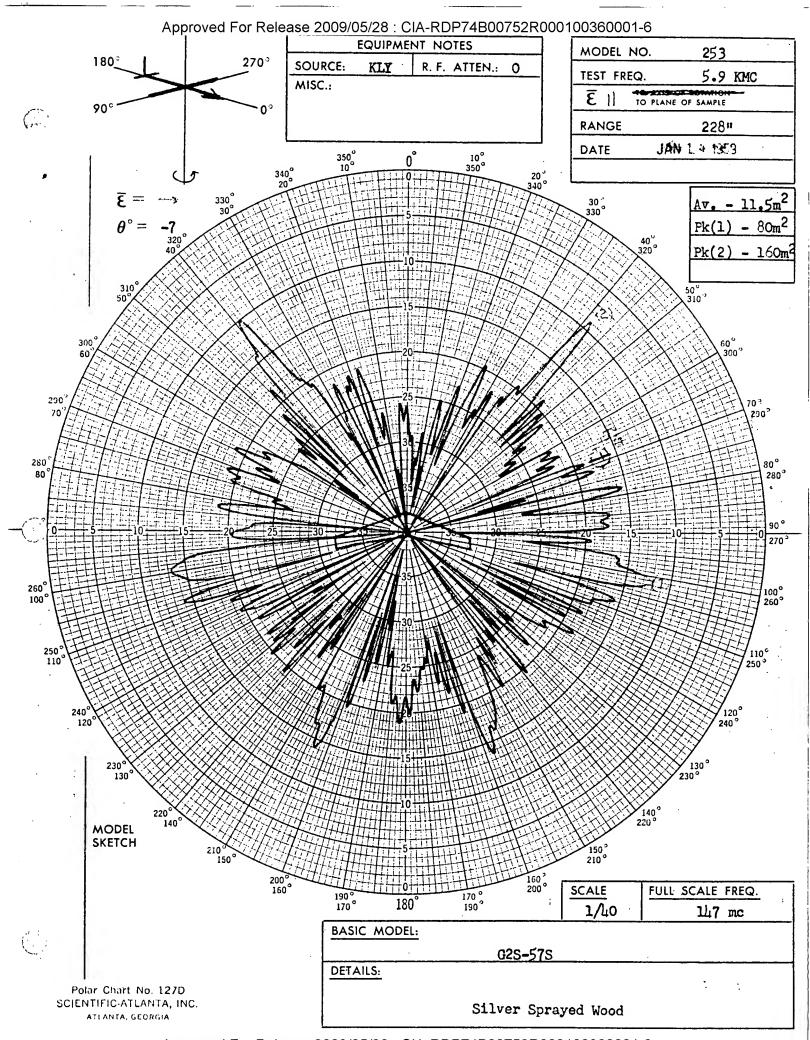
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



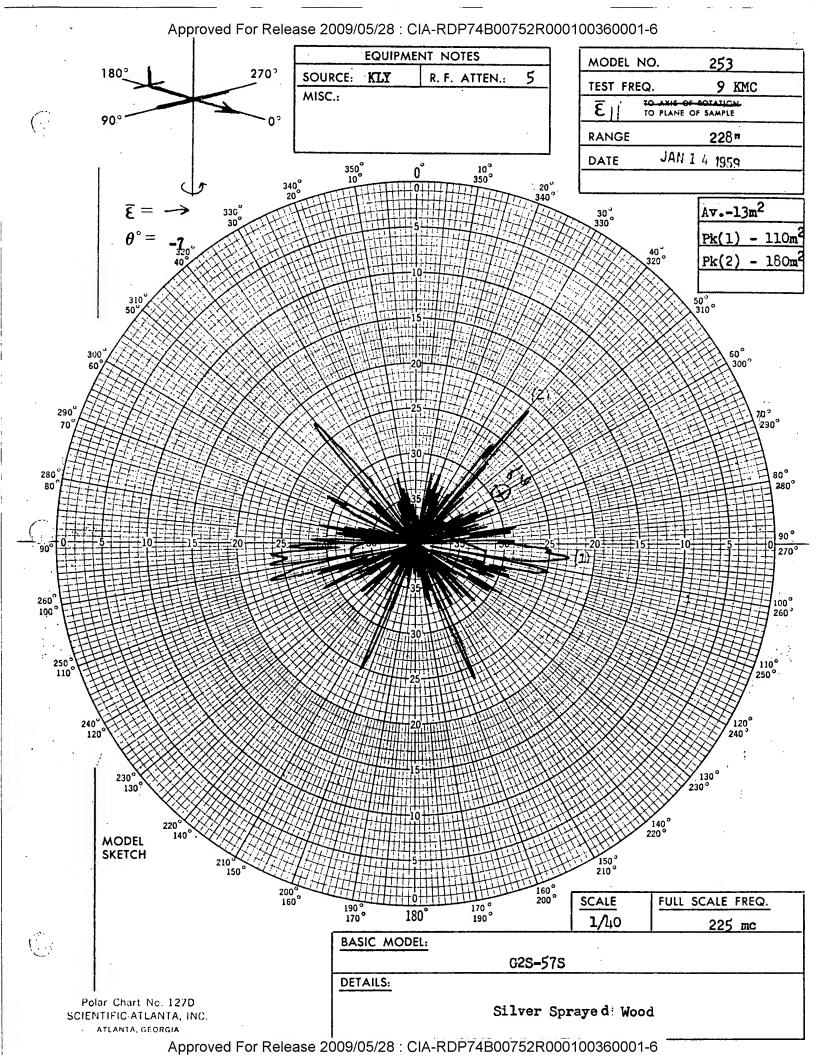


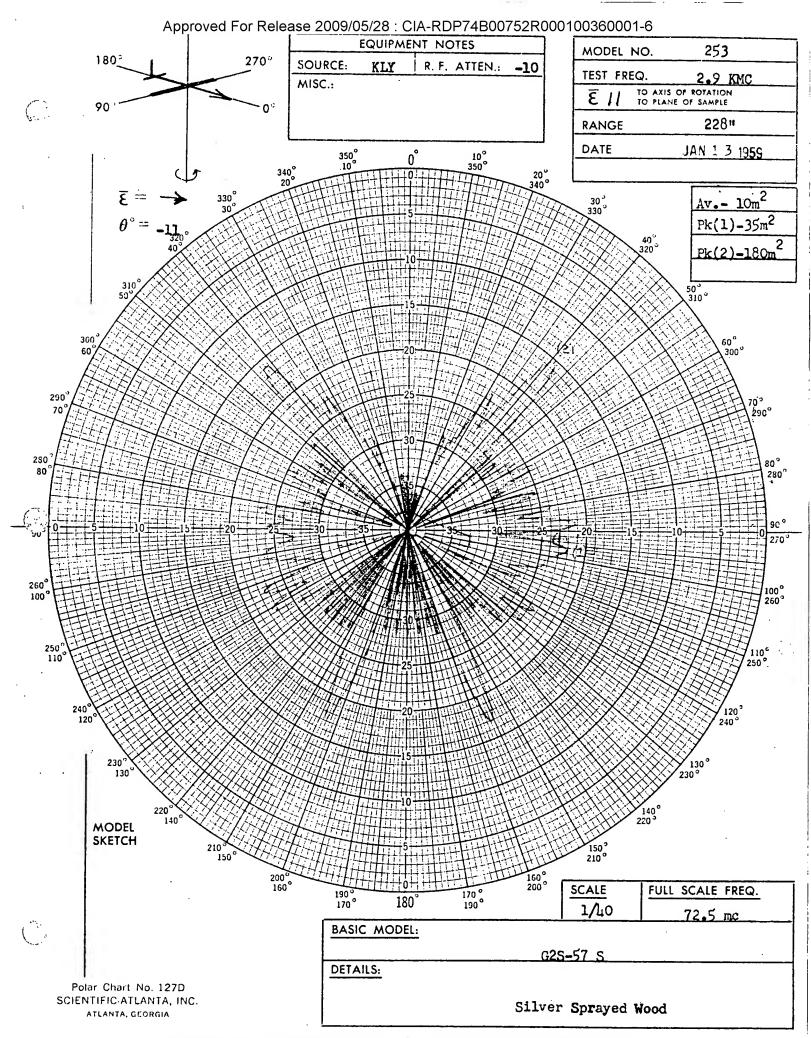


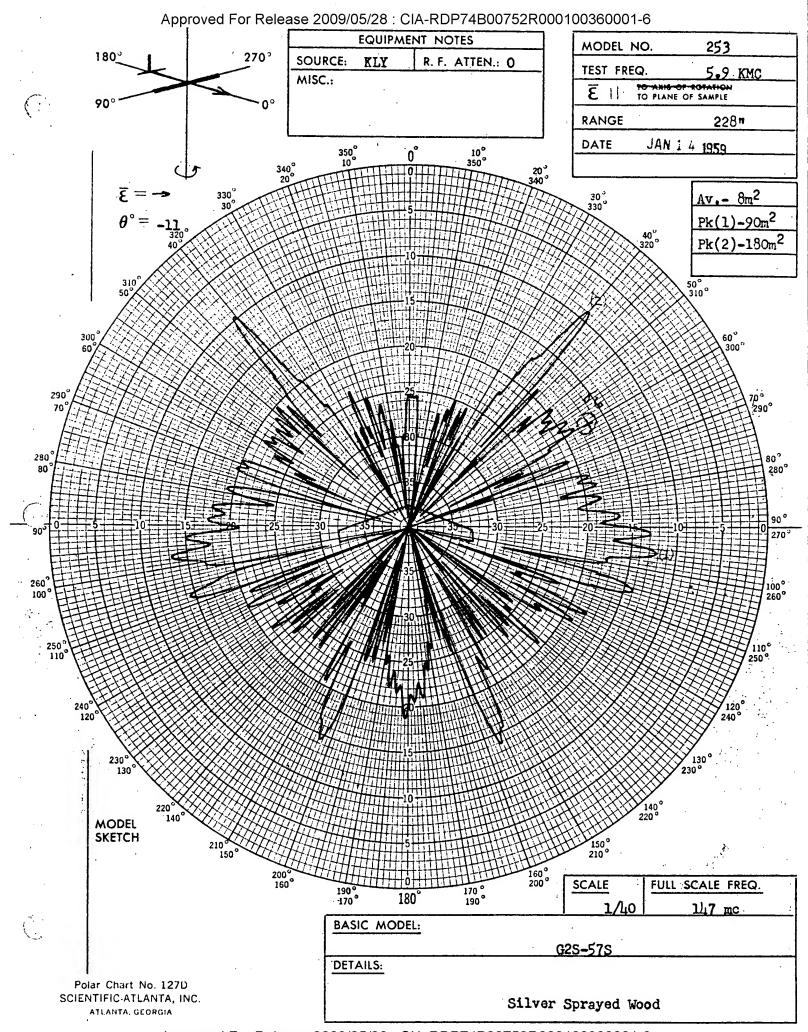




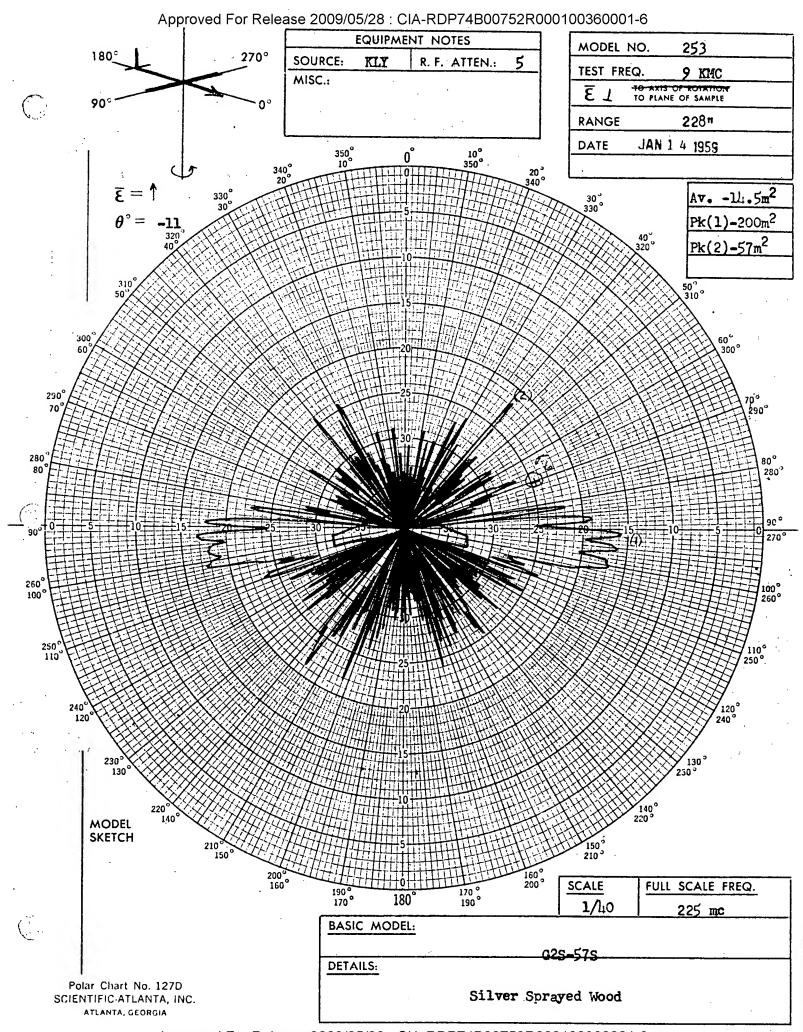
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



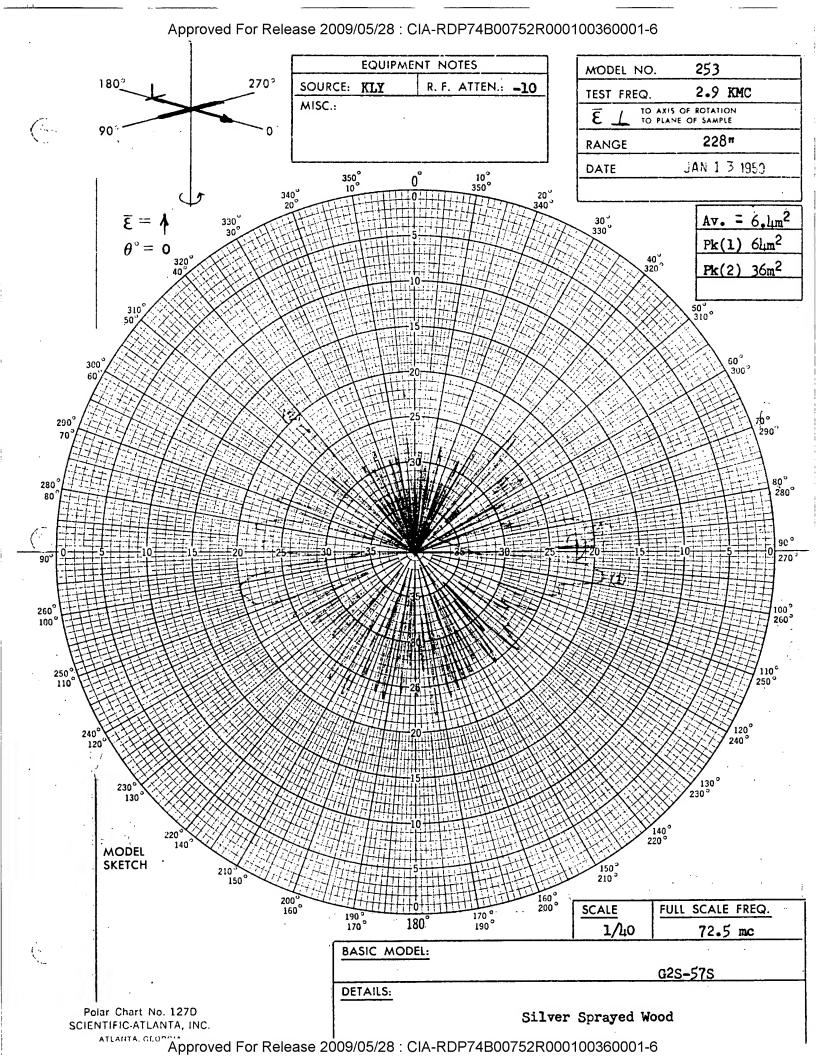


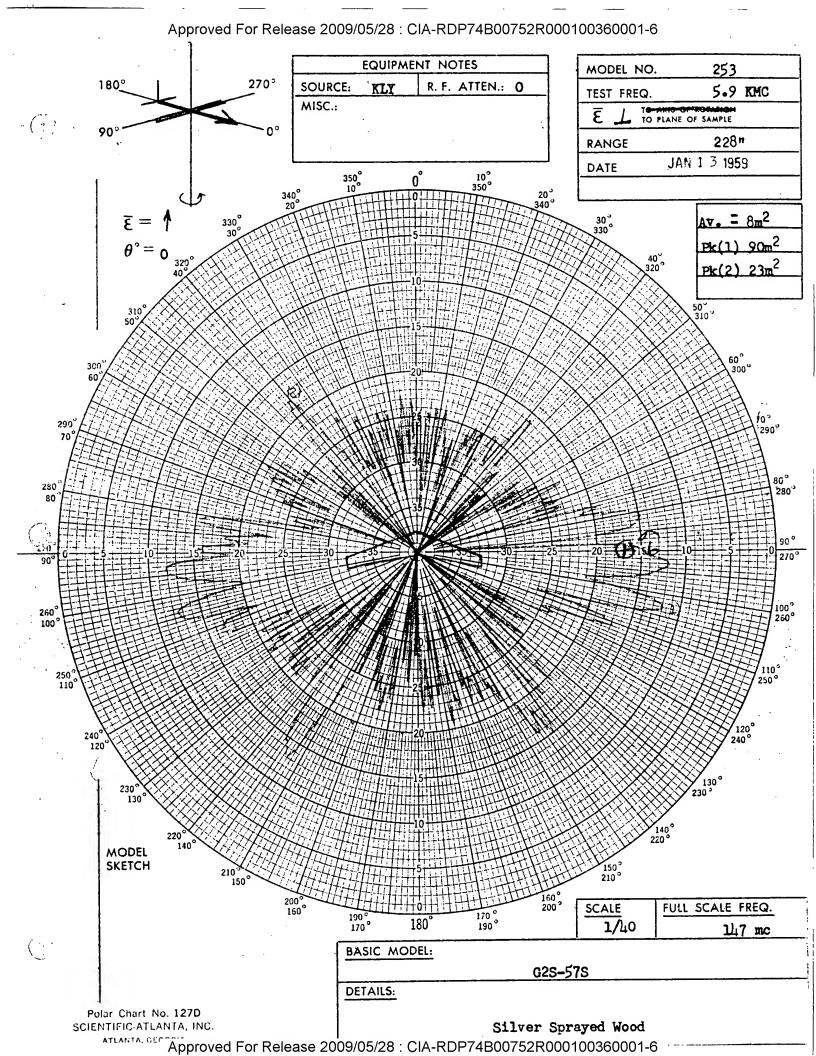


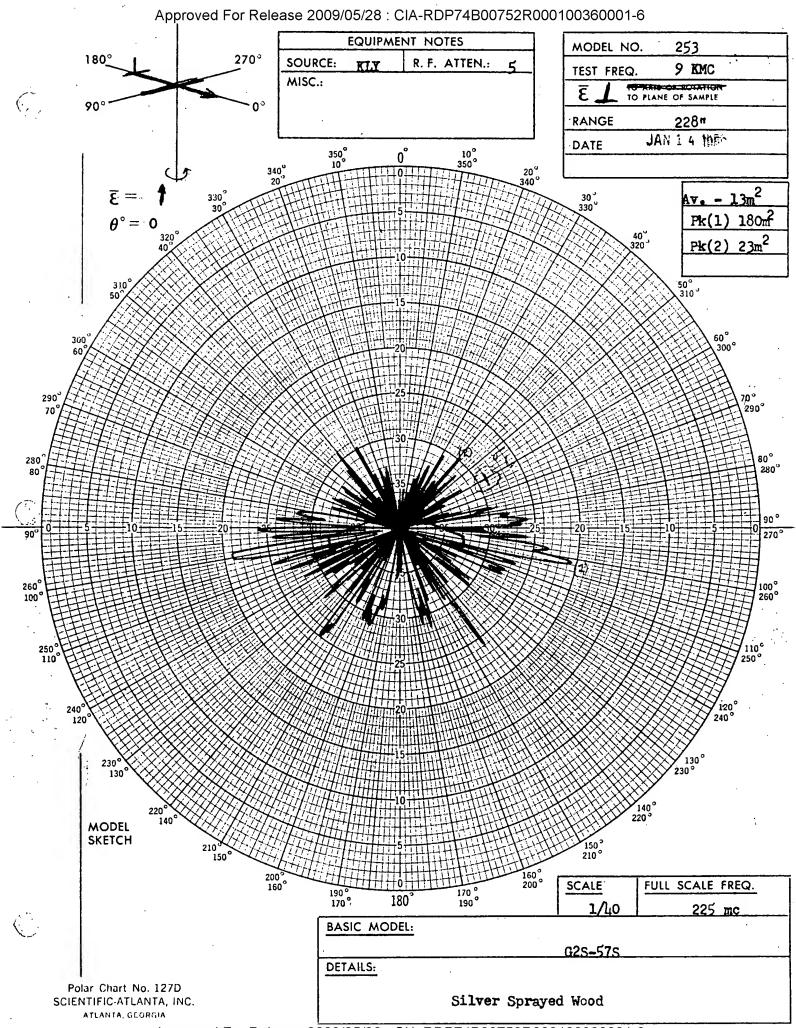
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

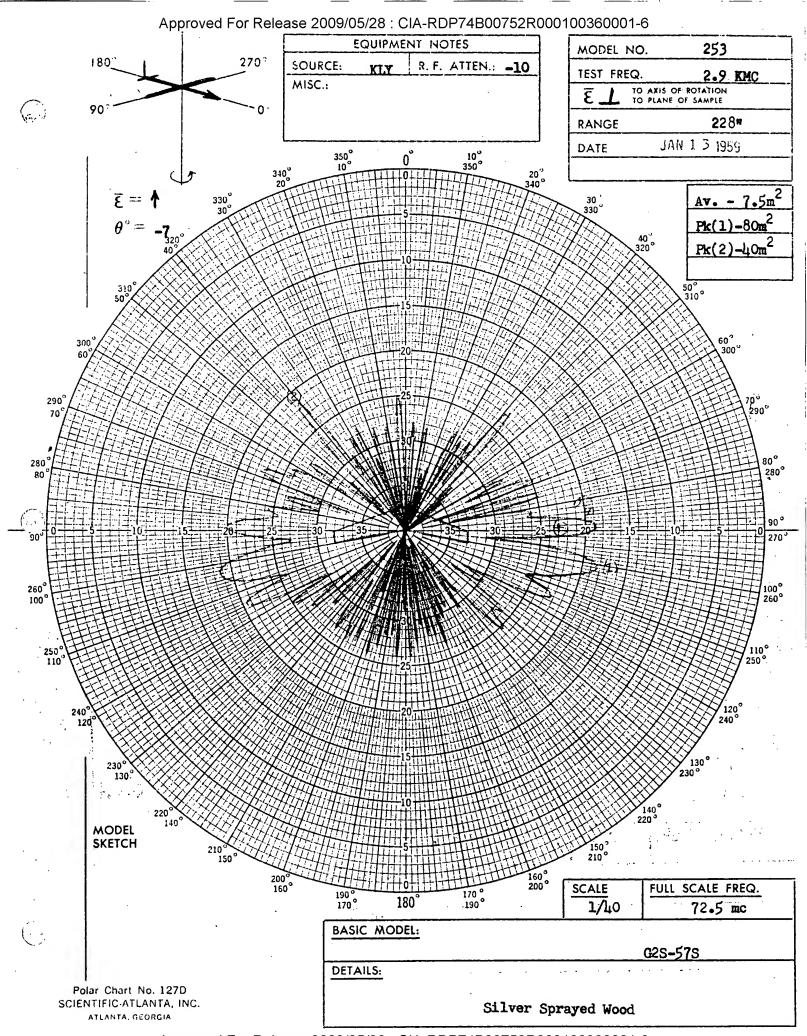


Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

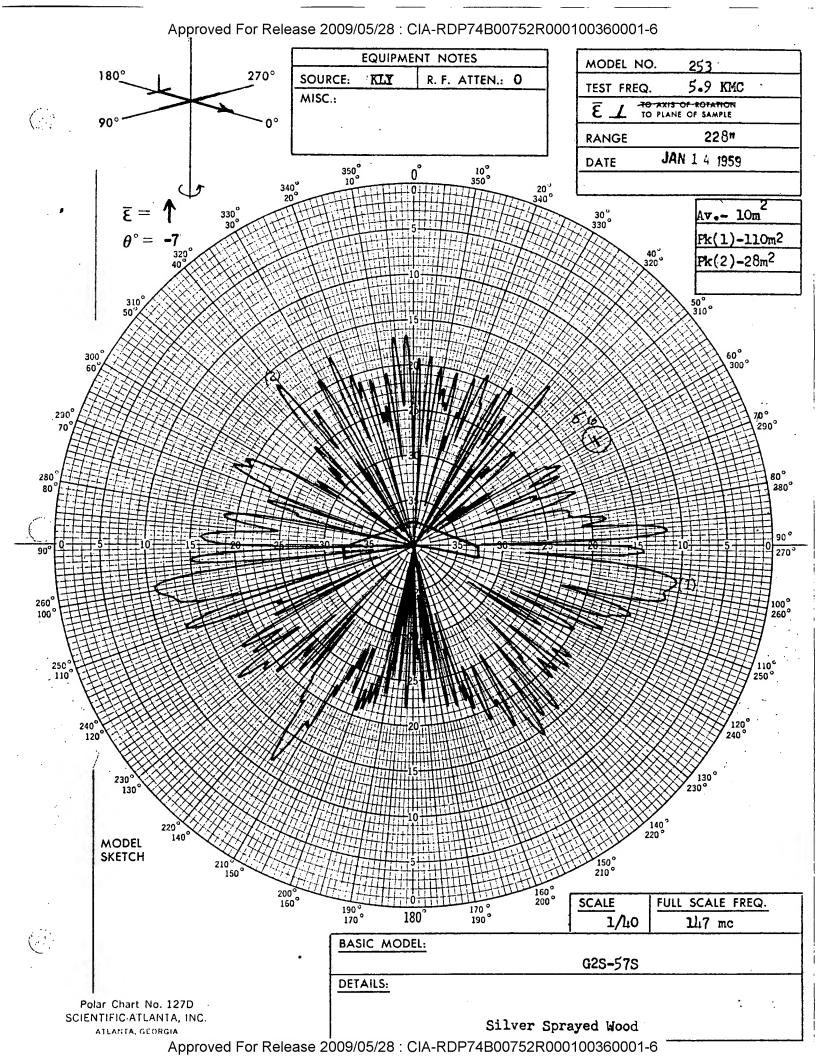


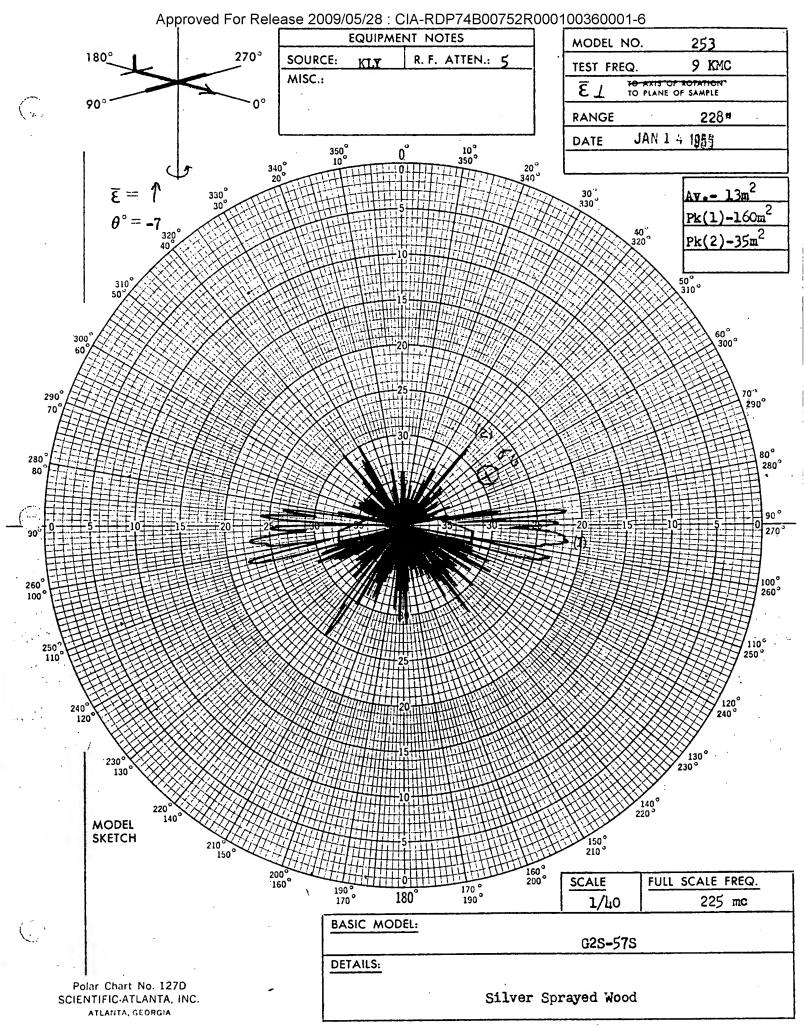




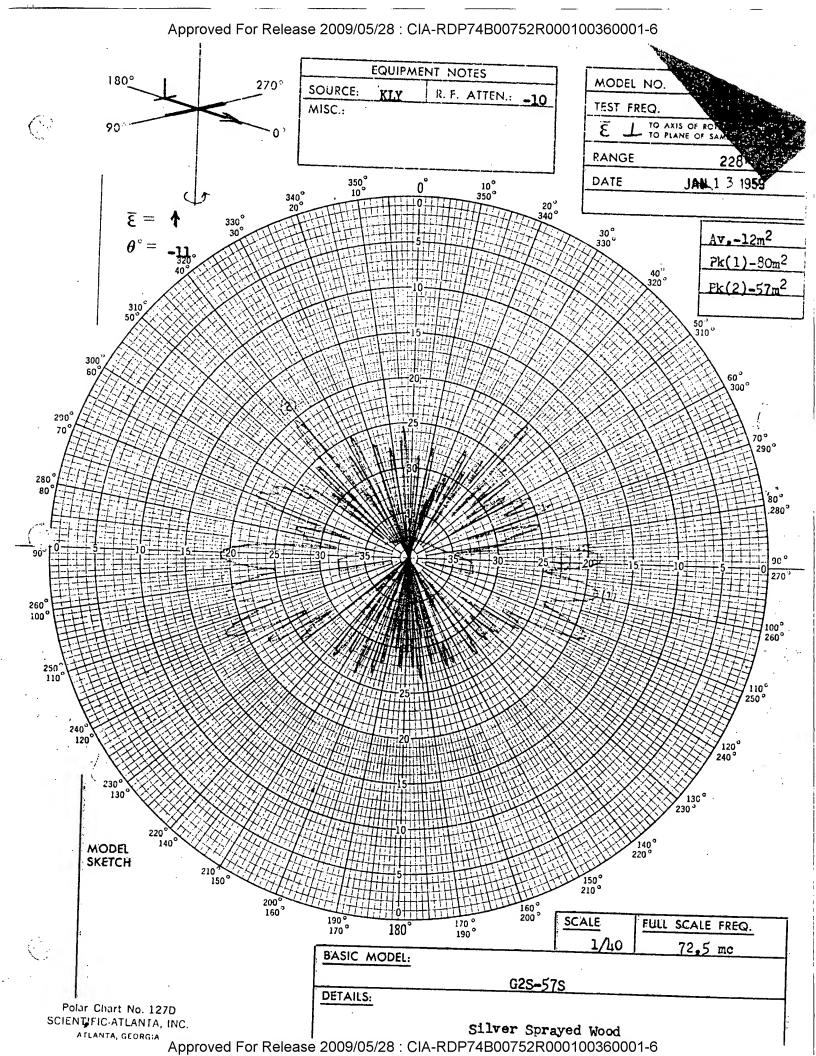


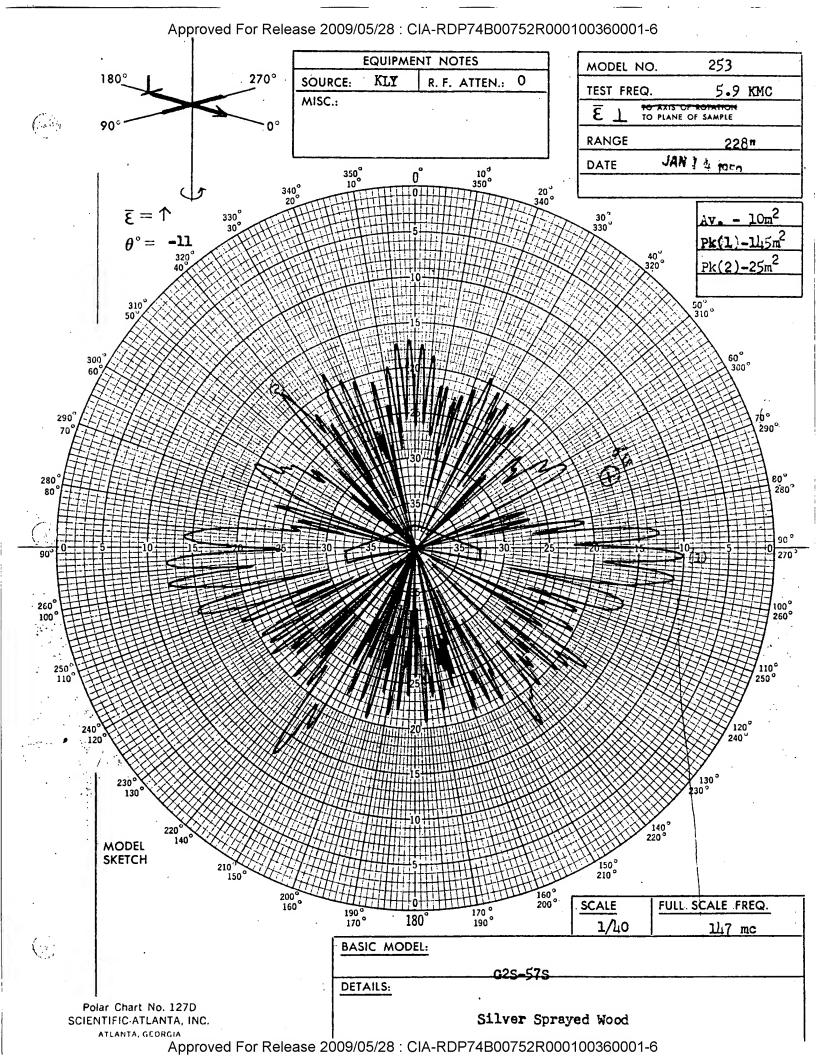
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

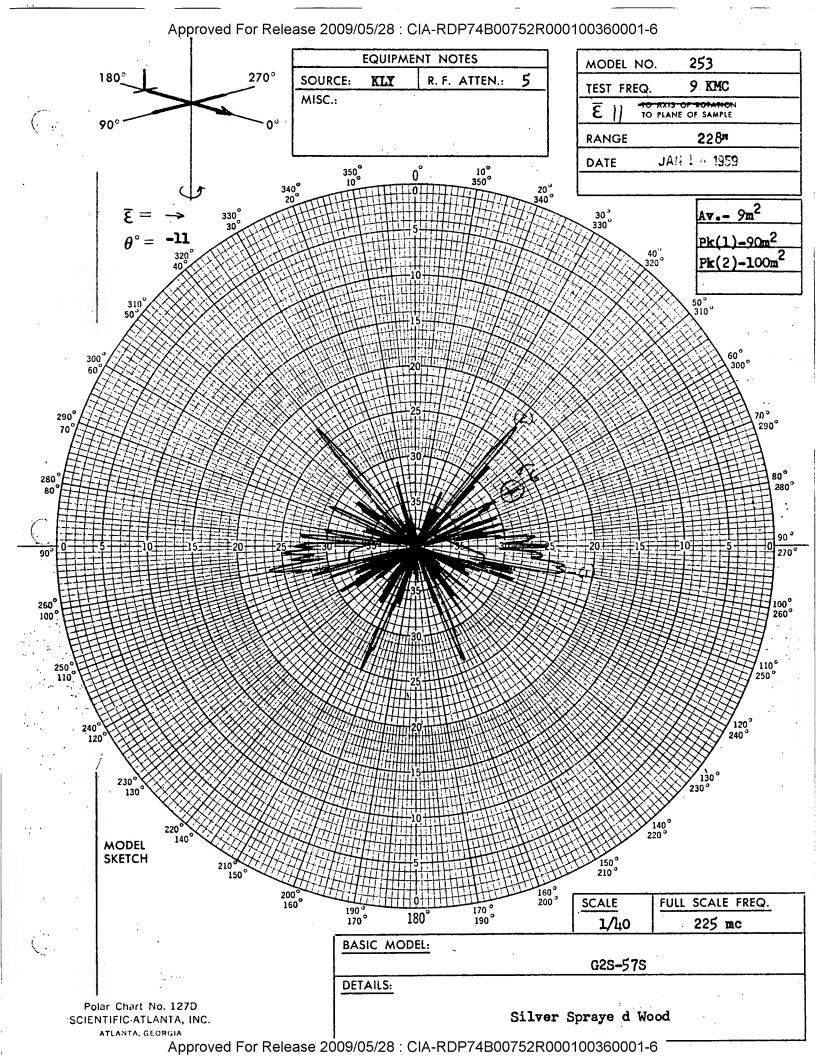


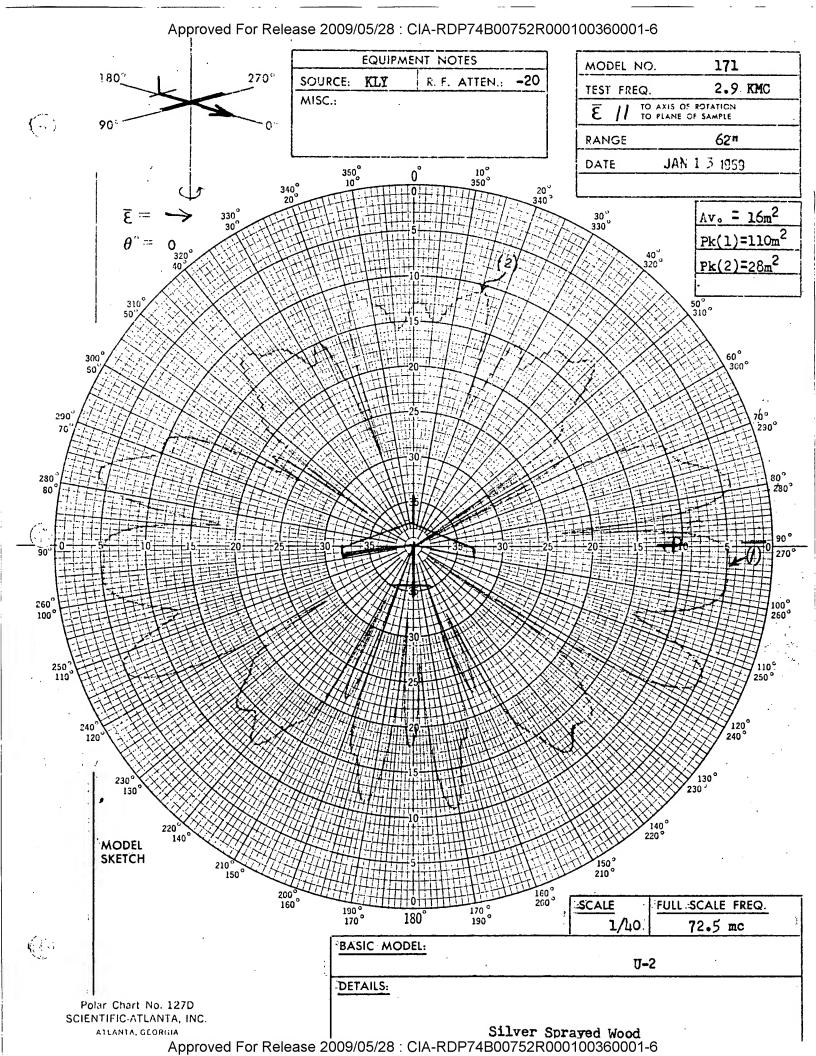


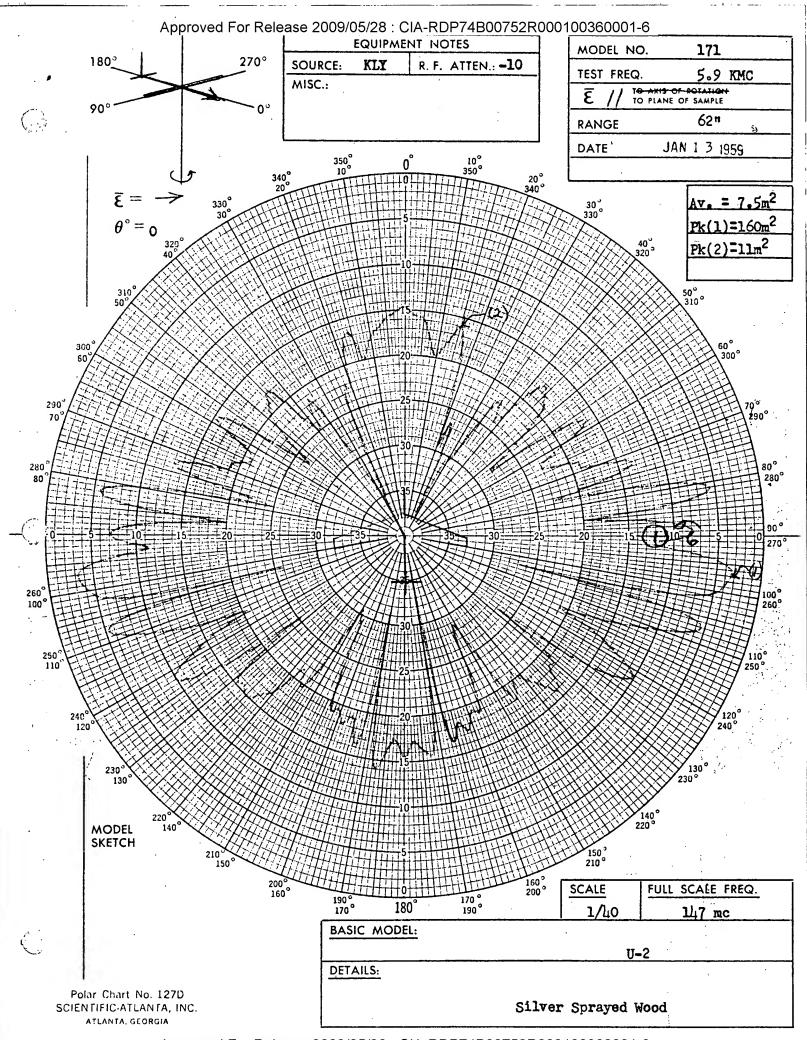
Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6



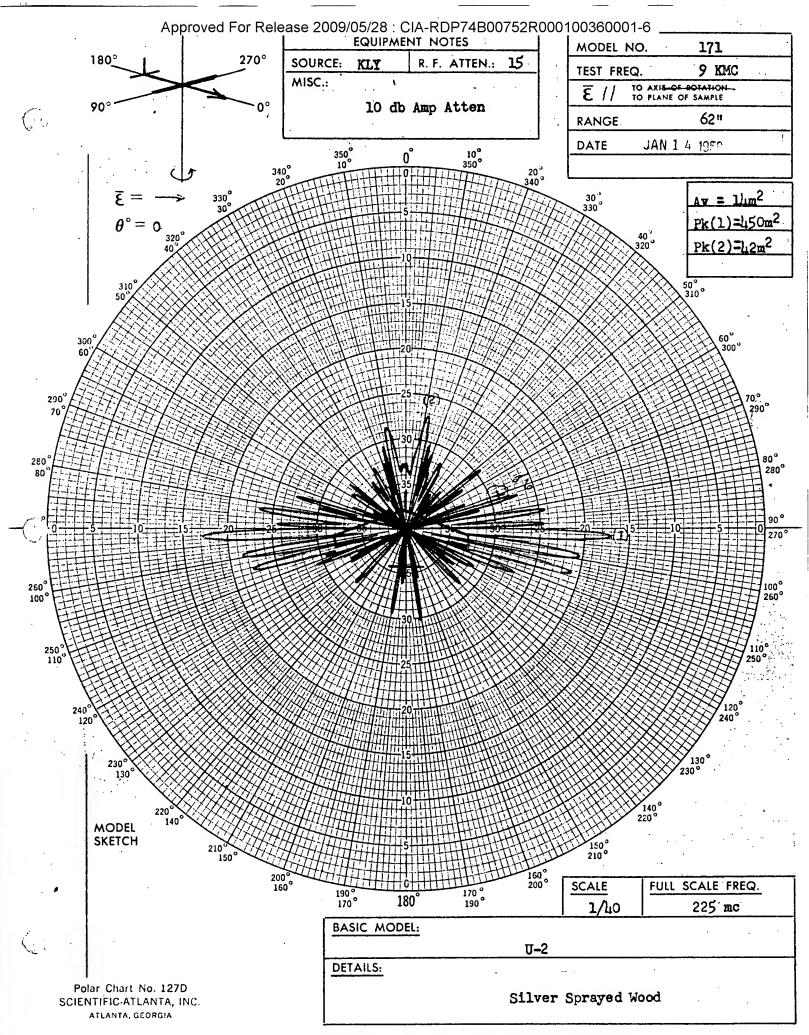




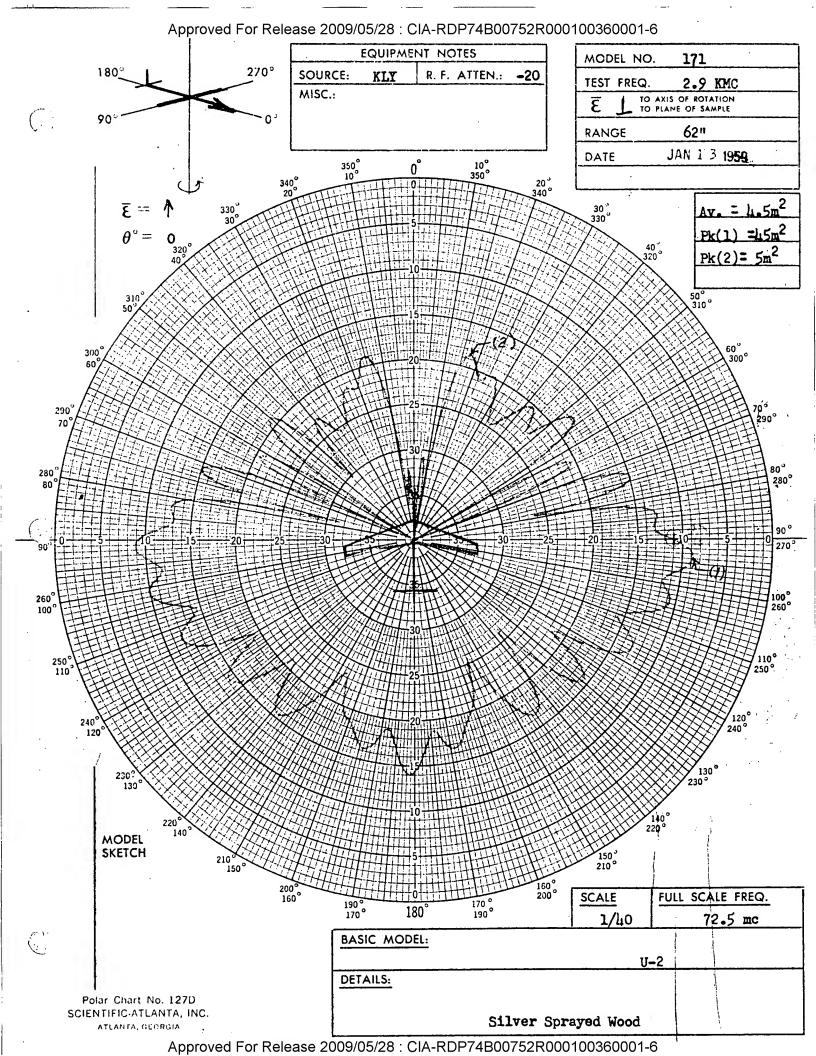


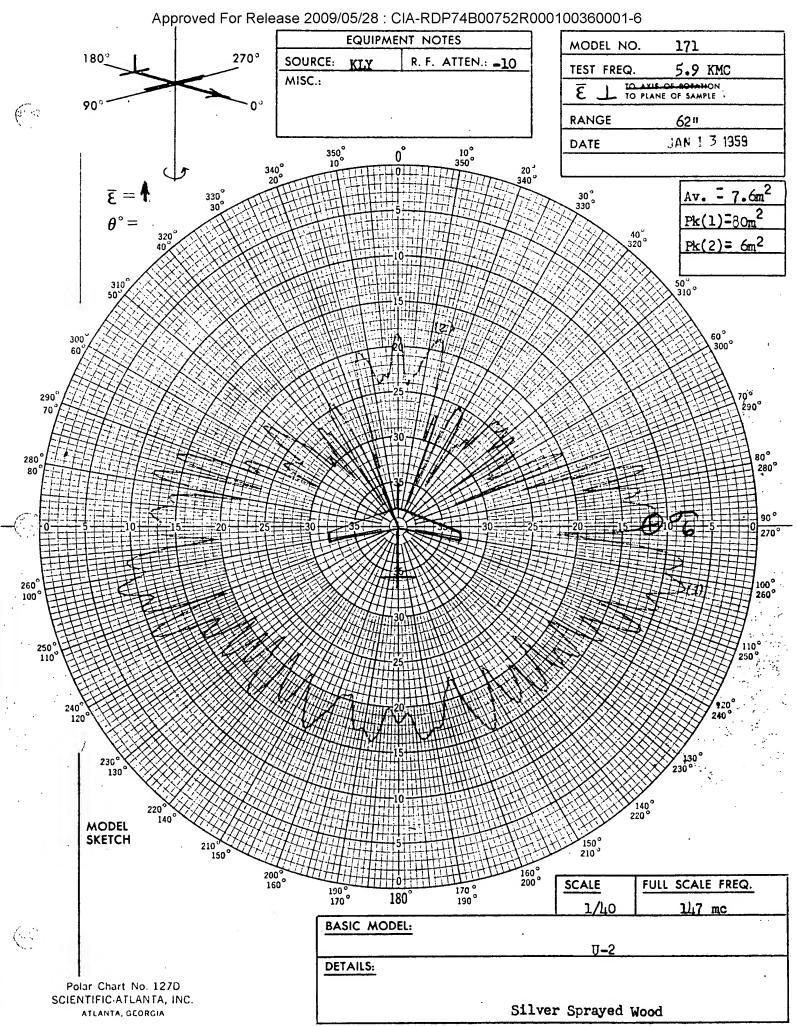


Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

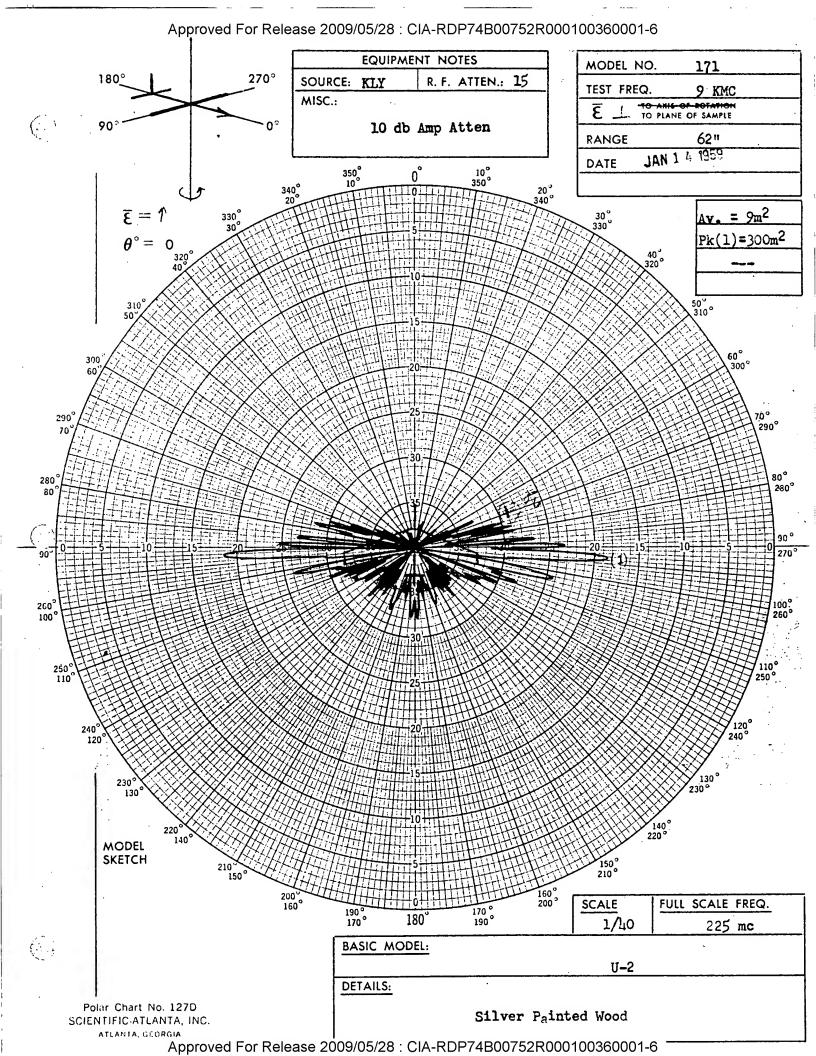


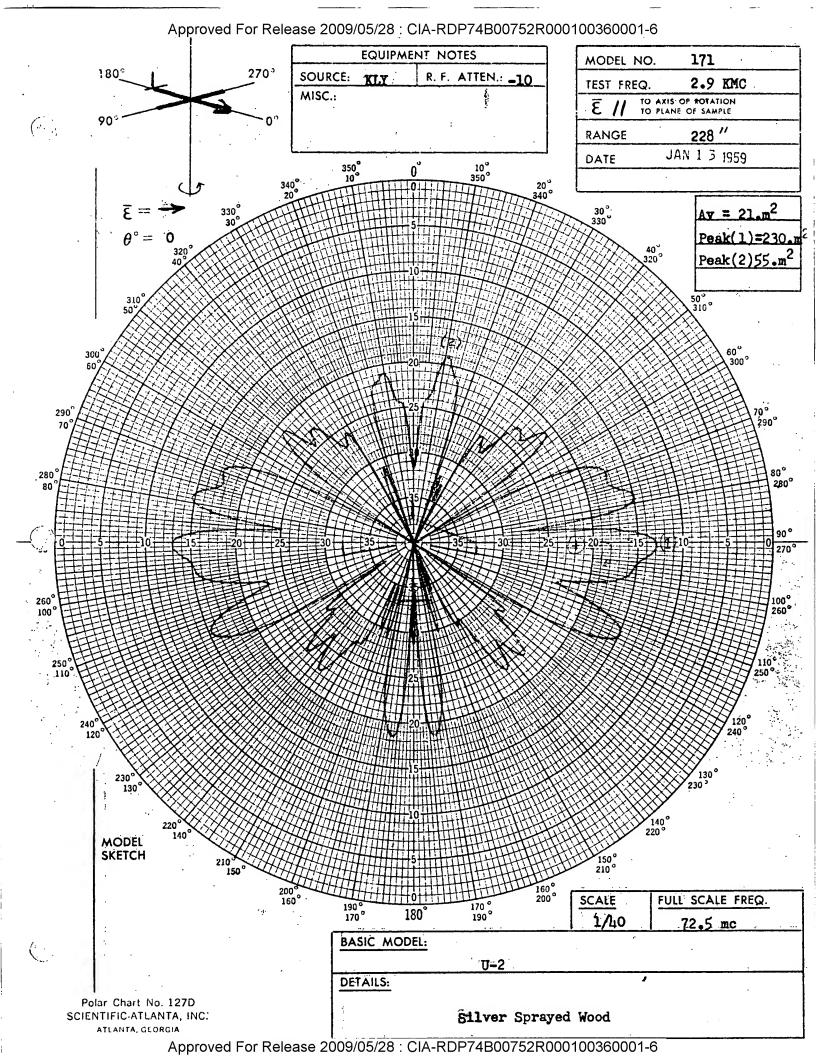
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

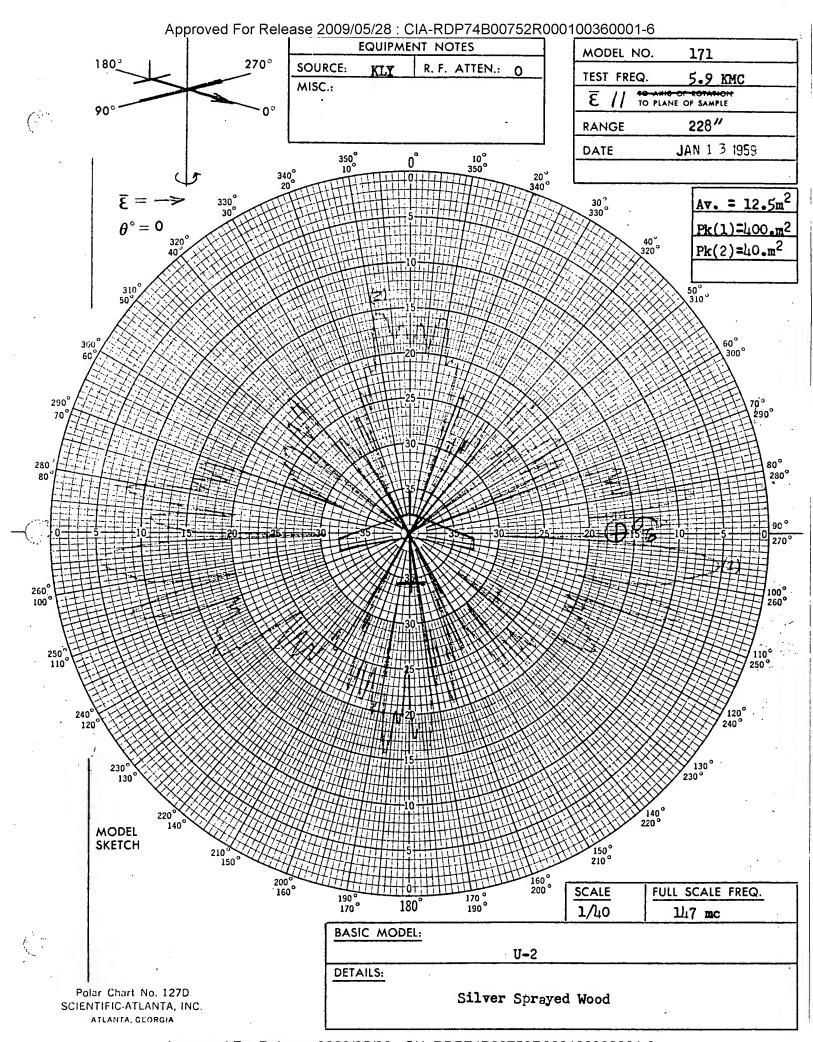




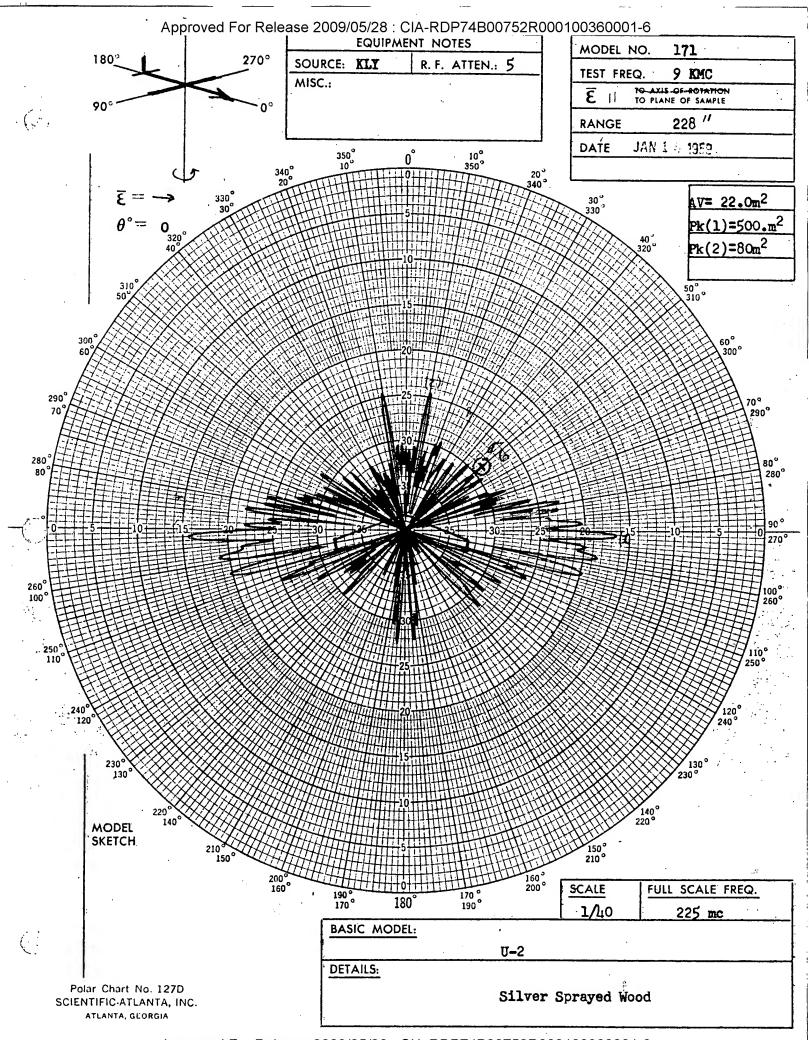
Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6



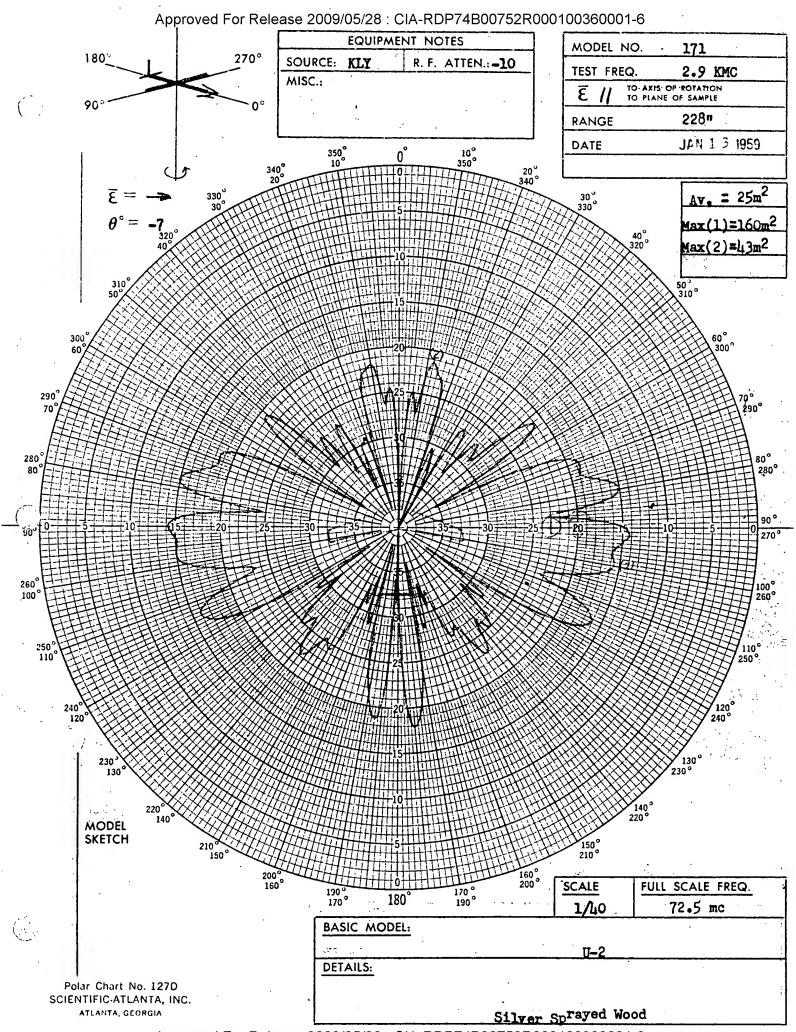




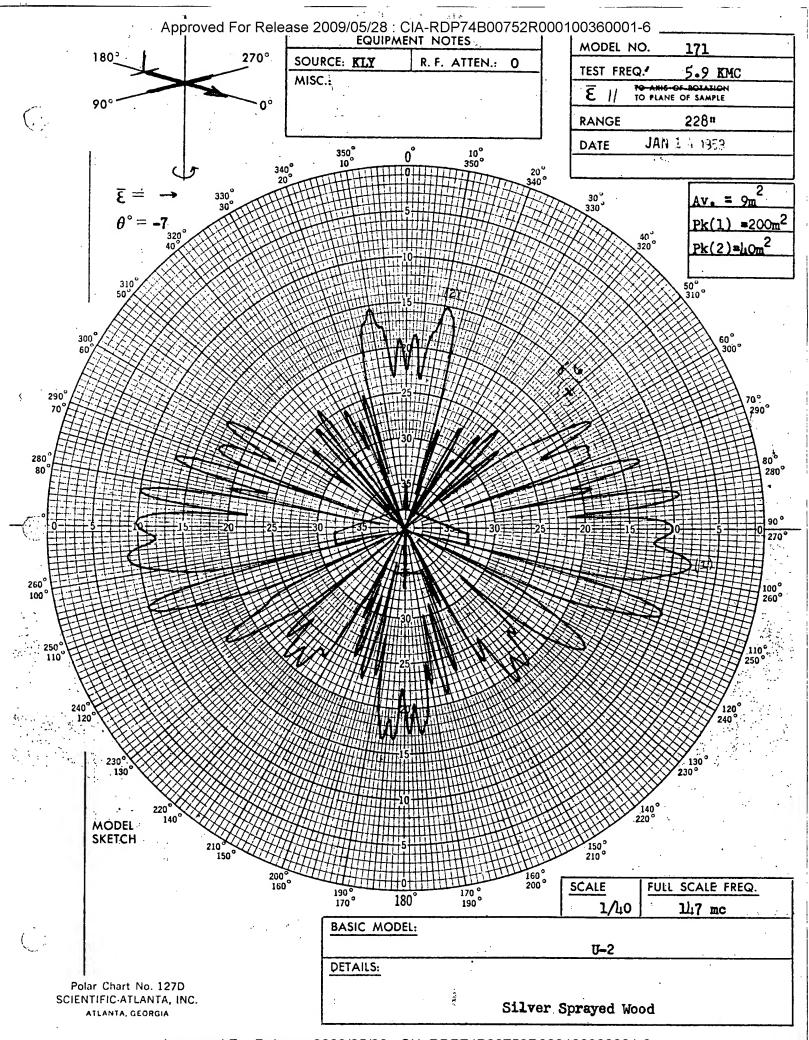
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



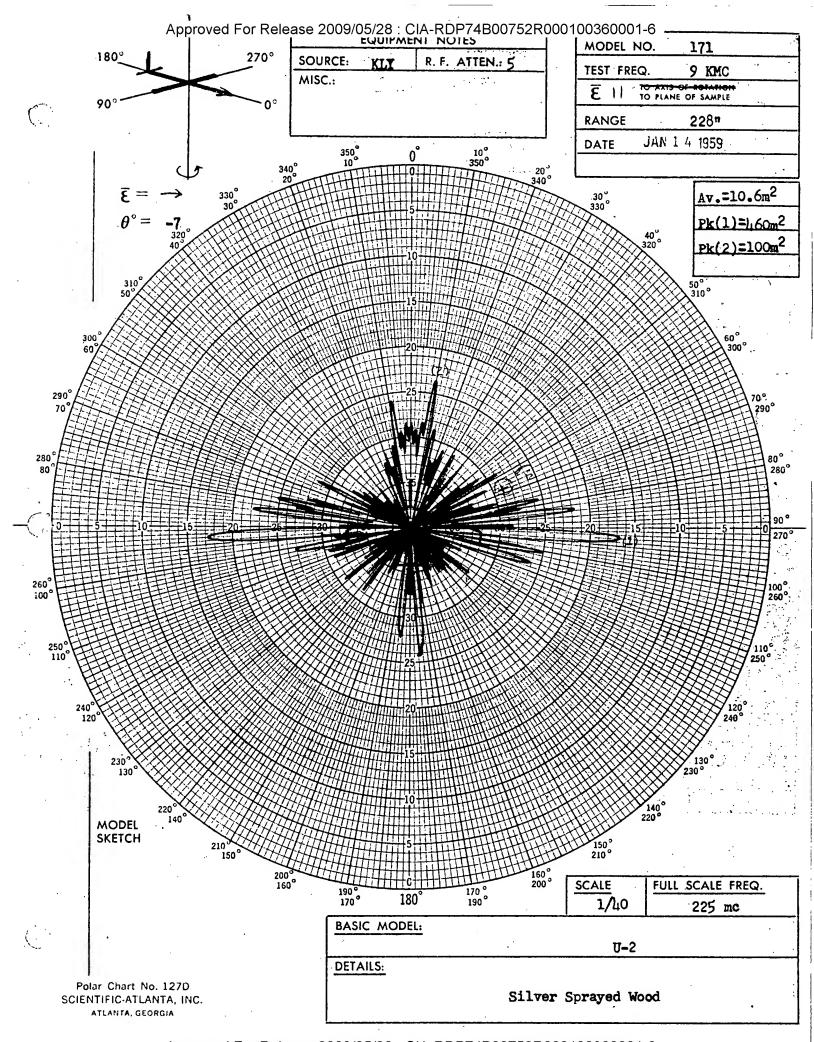
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



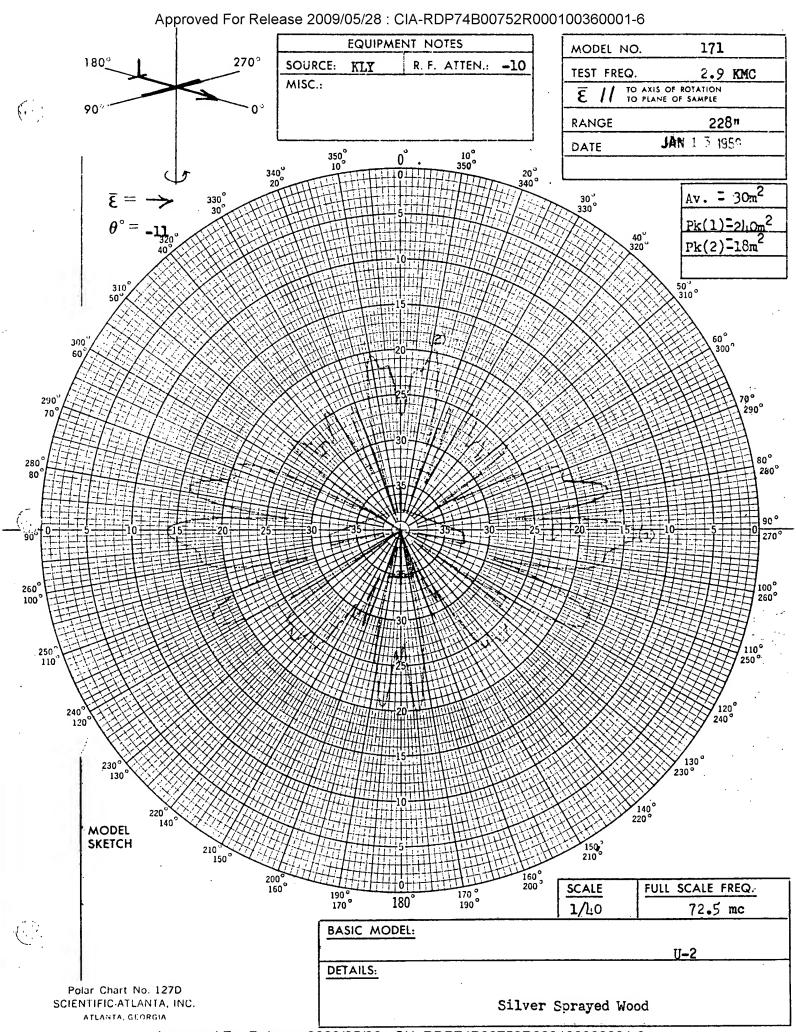
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

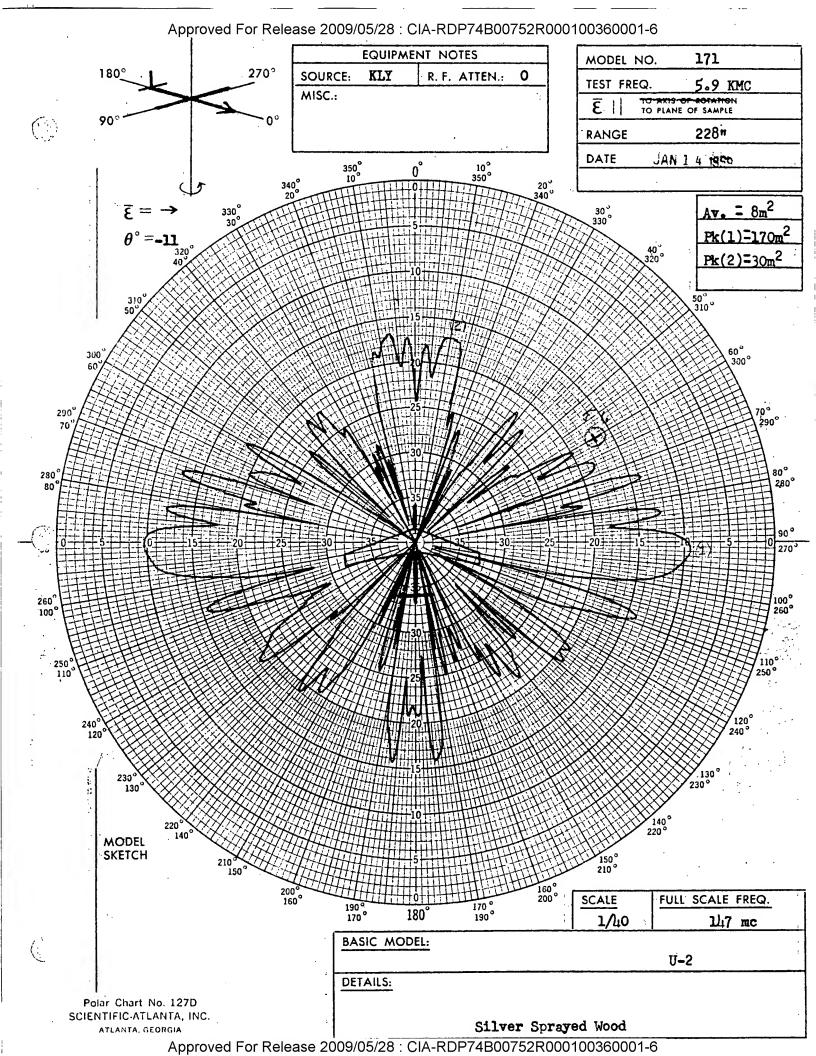


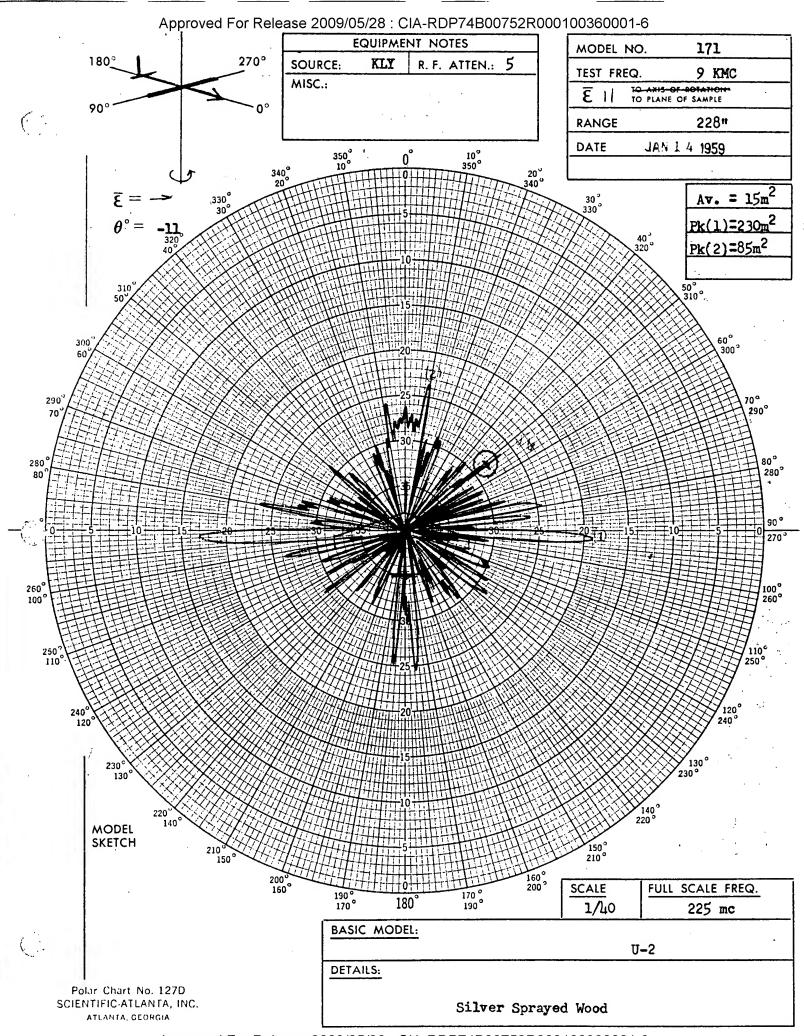
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



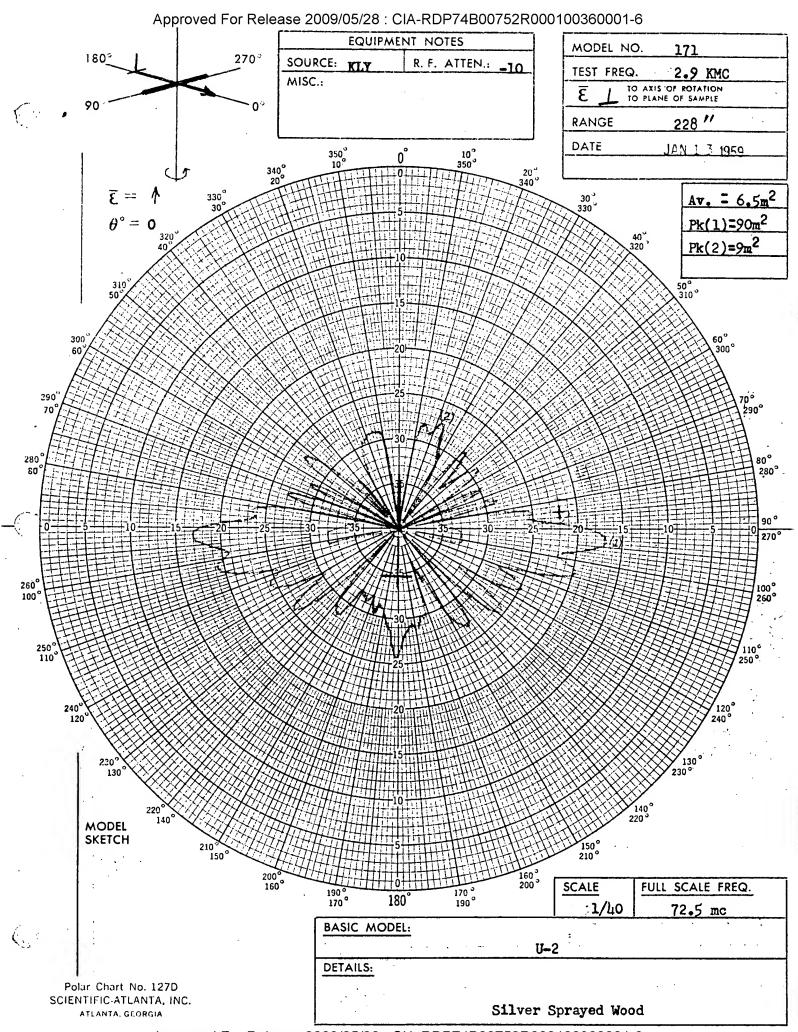
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



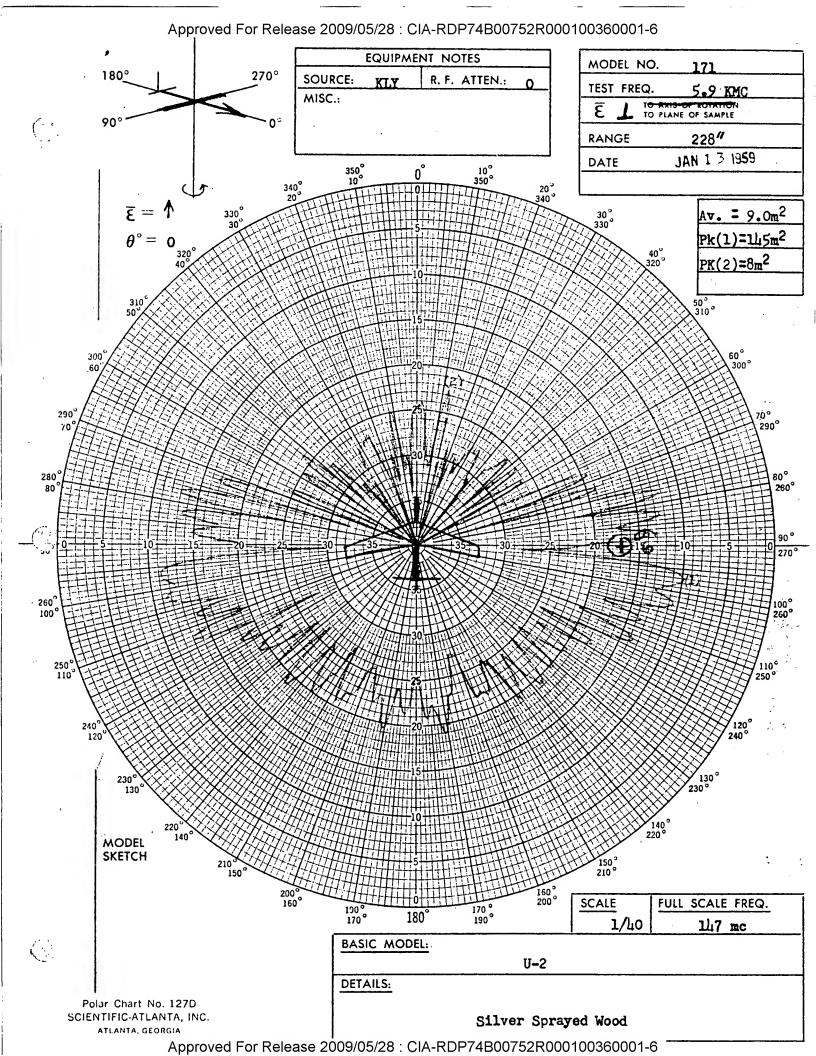


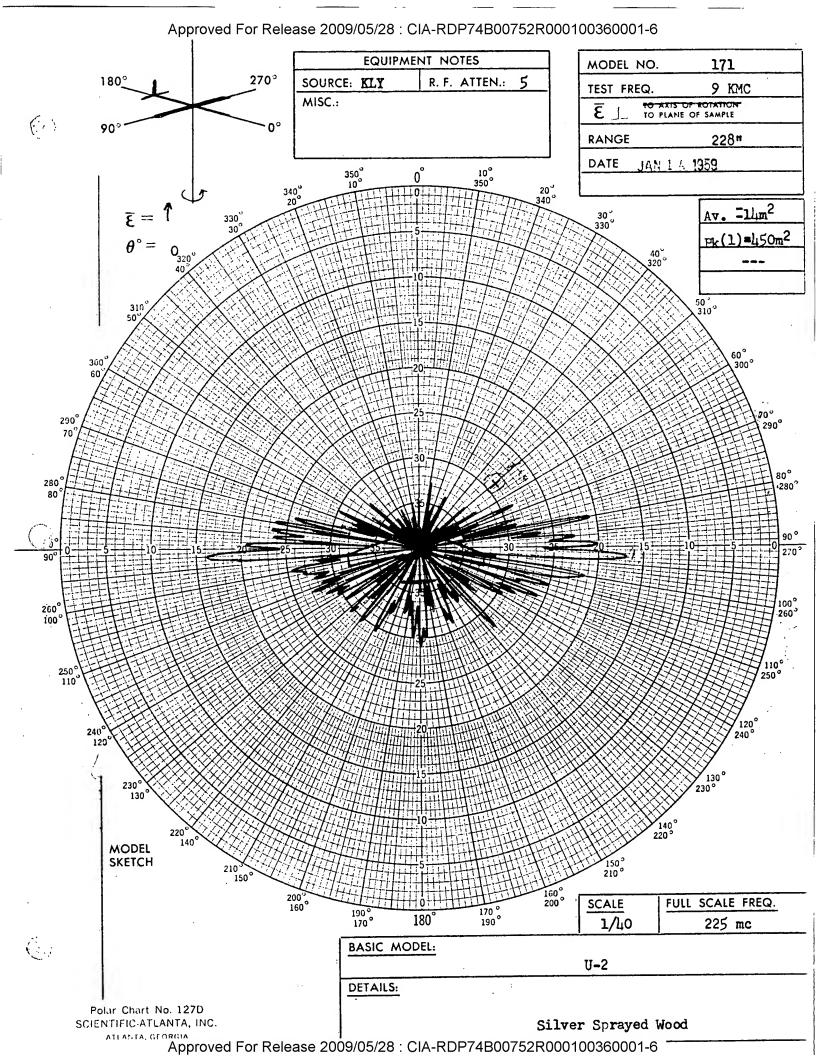


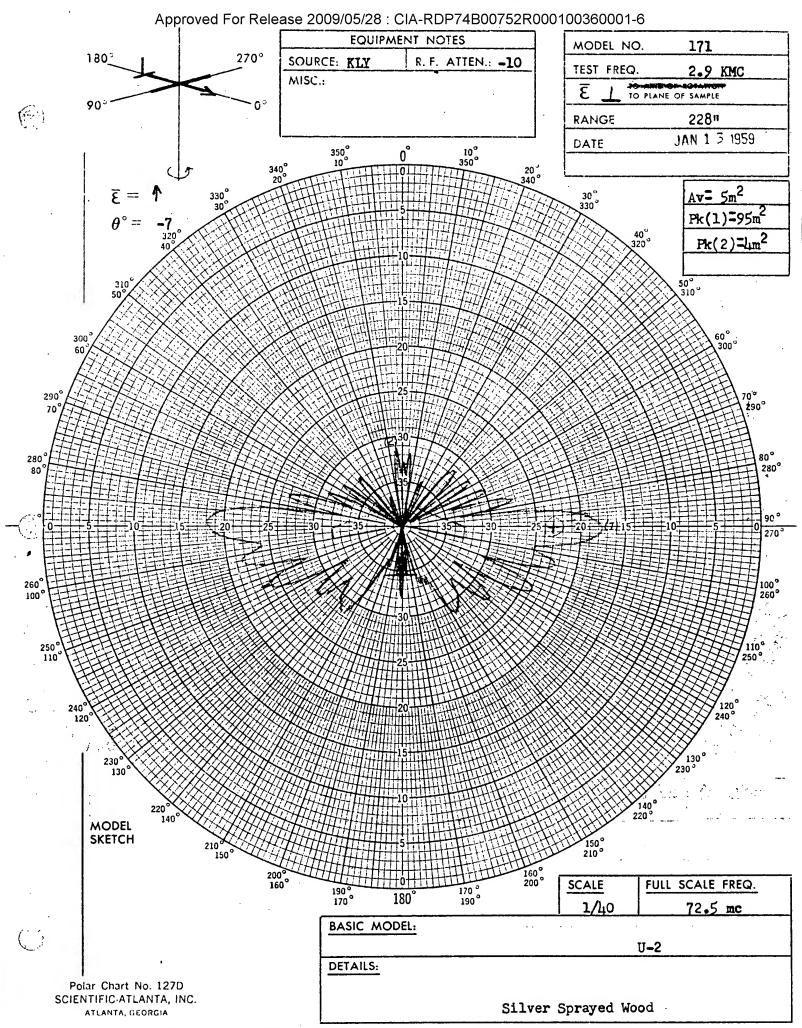
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



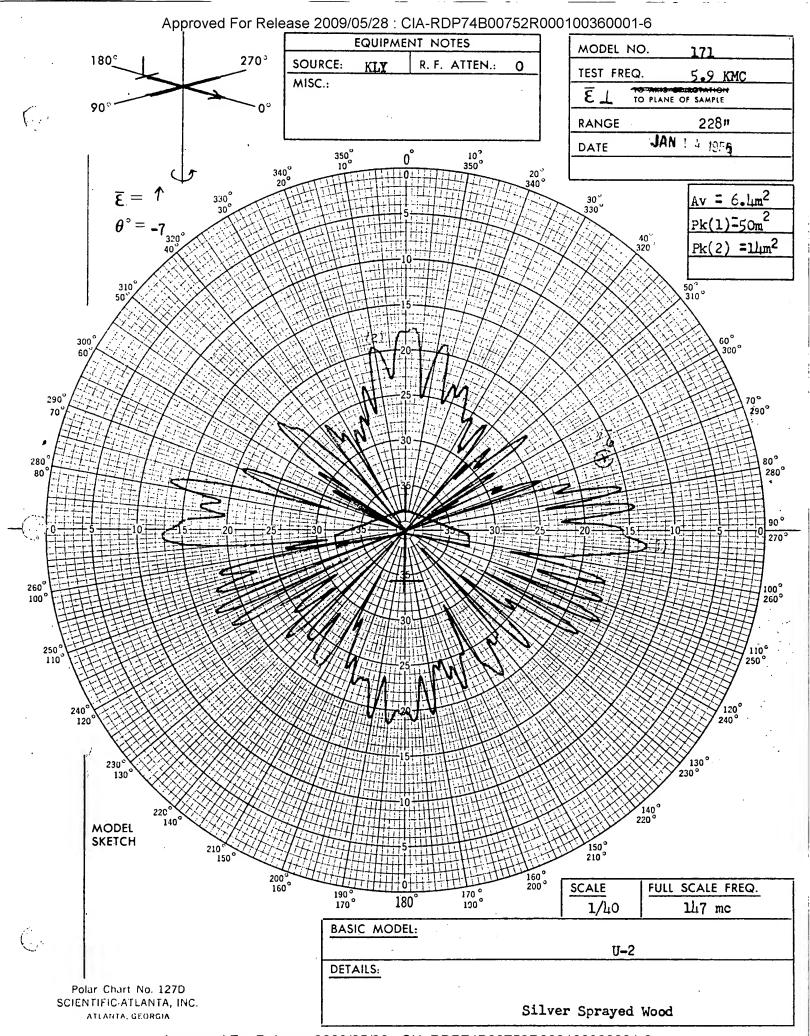
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



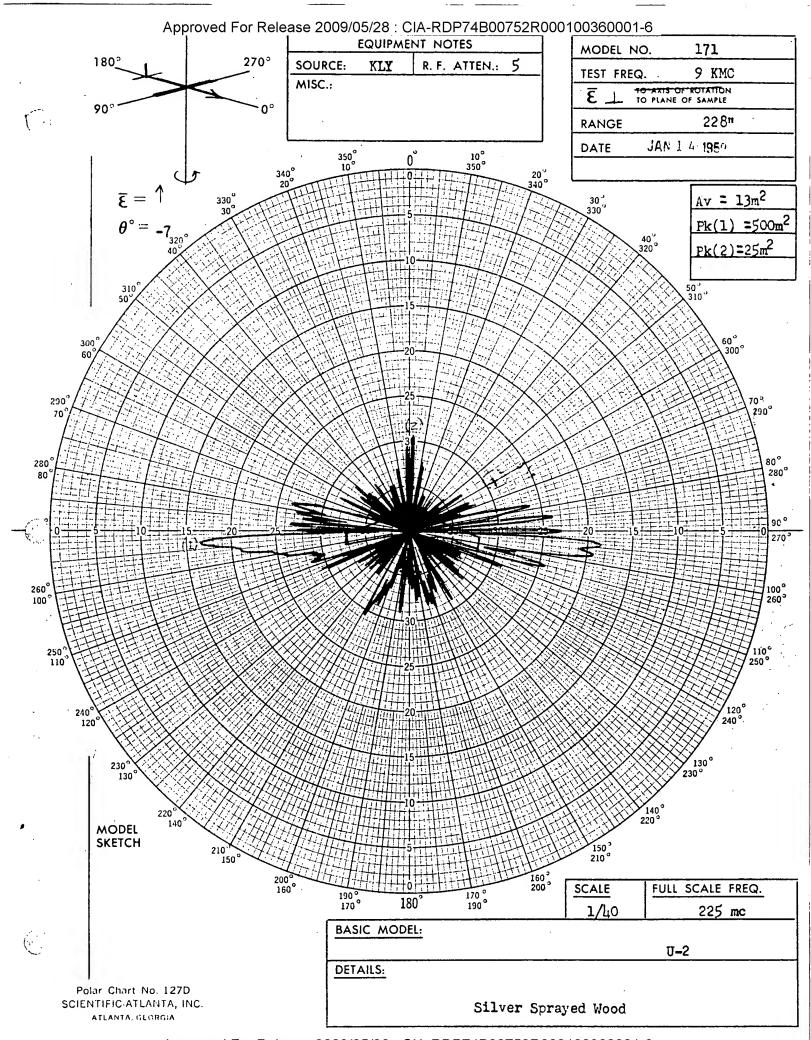




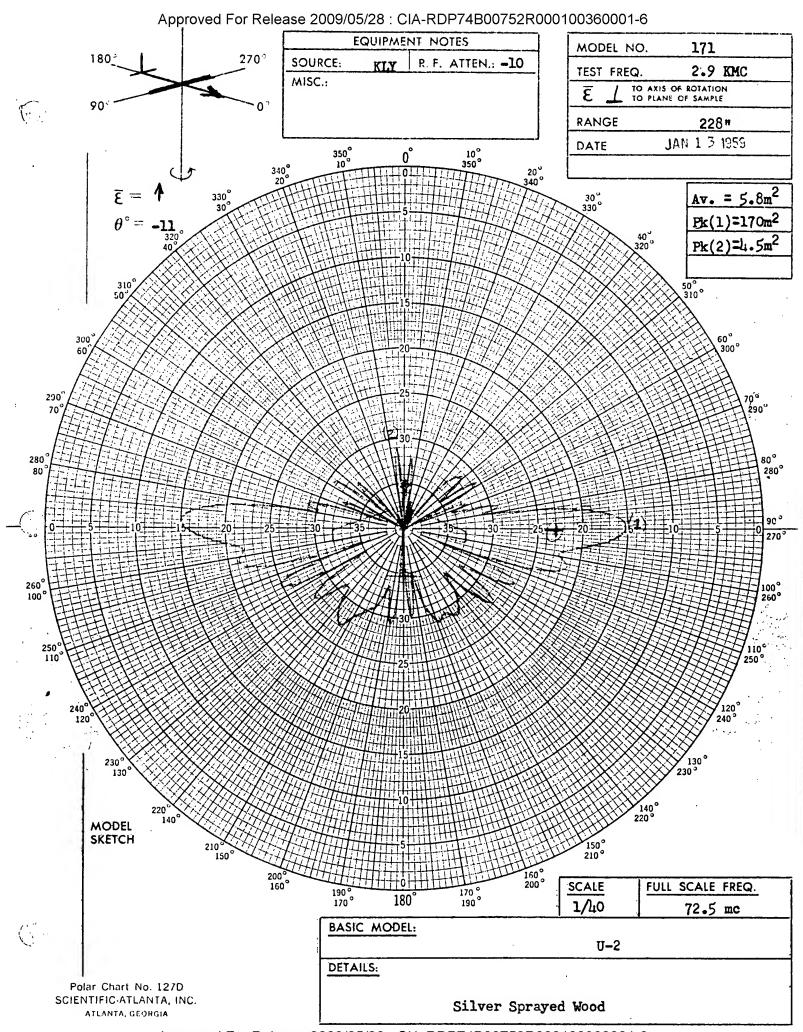
Approved For Release 2009/05/28: CIA-RDP74B00752R000100360001-6



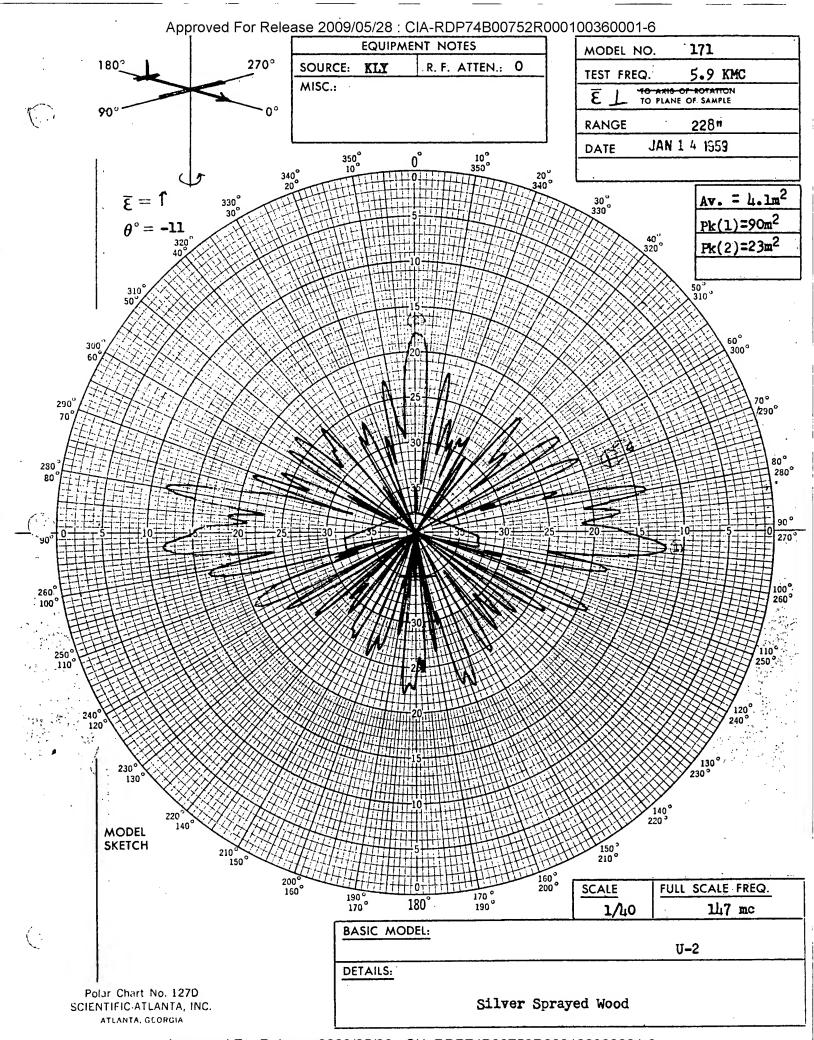
Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6



Approved For Release 2009/05/28 : CIA-RDP74B00752R000100360001-6

